Book 6

Chapter 1

A. Fill in the blanks with the help of the words given in the box.

1. four 2. Record audio 3. Online video 4. Hyperlink 5.actions

B. Write true (T) or false (F).

1. F 2. T 3. T 4. F 5.F

C. Tick (✓) the right answer.

1.(i) 2.(iii) 3.(iii) 4.(ii) 5.(ii)

D. Match the following:

1.(iv) 2.(i) 3.(v) 4.(ii) 5.(iii)

E. Answer the following questions.

1. Adding pictures and charts to a presentation helps the audience understand the information more easily. Visuals simplify the information and make it simpler for viewers to grasp complex concepts with ease. Similarly, including audio and video clips make presentations more interesting and help people remember the information better. It also keeps the audience engaged and holds their attention.

2. **To insert video clips, follow these steps:**

1. Open your PowerPoint presentation and select the slide where you want to insert the video.
2. Click on the **Insert** tab in the ribbon at the top of the window.
3. In the **Media** group, click on the **Video** dropdown arrow.
4. This will display two sub-options:

¤ **Video on My PC:** This option allows you to insert video that is saved on your computer's hard drive.

¤ **Online Video:** This option allows you to insert video from an online source.

5. Choose **Video on My PC** option. It will open the **Insert Video** dialog box.
6. Select the video file that you want to insert from your computer and click the **Insert** button.
7. If you want to insert video from an online source, choose **Online Video** option. A dialog box will appear with two options where you can paste the embed code of the online video or you can search YouTube video.
8. Click the **Insert** button after pasting the embed code.
9. Once the video clip is inserted, the video icon is displayed on the slide. This icon represents

the placeholder for the video on the slide.

10. Click on the **Play** button on the video icon to preview the video clip.

3. To insert audio clips in PowerPoint, follow these steps:

1. Open your PowerPoint presentation and select the slide where you want to insert the audio clip.
2. Click on the **Insert** tab and in the **Media** group, click on the **Audio** dropdown arrow.
3. It will display two sub-options:

¤ Audio on My PC: It allows you to insert audio file saved on your computer.

¤ Record Audio: It allows you to record your own voice.

To insert audio from the file, follow the given steps:

1. Click on **Audio on My PC.** It opens the **Insert Audio** dialog box.
2. Select the audio file that you want to insert and click the **Insert** button.
3. Once the audio clip is inserted, the audio icon is displayed on the slide.
4. Click the **Play** button on the audio icon to preview the audio clip.

To record Audio, follow the given steps:

1. Click on **Record Audio**. It opens the **Record Sound** dialog box.
2. Enter a name for the recorded audio file in the Name field.
3. Click on the **Record** button and start recording using the computer's microphone.
4. When you're finished recording, click the **Stop** button. To preview recording click the **Play** button.
5. Click the **OK** button to save the recorded audio file.
6. Once saved, a sound icon will be added to the slide.
7. To play the recorded audio, click on the sound icon during your presentation.

4. Action buttons are pre-designed shapes that can perform specific actions when clicked during a presentation. They make our slides more interactive by adding some clickable components in a presentation. When clicked, these buttons trigger specific actions such as navigating or jumping

to different slides, linking to external resources, playing audio or video etc. You can even turn any button into a hyperlink. **Hyperlink** allows you to navigate directly to different slides or even external content.

Some common types of action buttons are:

1. **Back and Next Buttons:** Allow the audience to navigate the previous and next slide in the presentation.
2. **Home Button:** Takes the audience return to the home slide of the presentation.
3. **Audio or Video Play Button:** Starts playing embedded audio or video clips in the presentation.
4. **Document Button:** Opens a file like a Word document or PDF.

5.

Steps to print a presentation:

1. Click on the **File** tab to access the backstage view. Then select **Print** option.
2. In the **Print Preview** section, you can see various print settings and options. These settings include:

    - **Printer selection:** Choose the printer you want to use for printing.
    - **Number of Copies:** Specify the number of copies you want to print.
    - **Print Range:** Specify whether you want to print all slides, specific range of slides, etc.

- **Slides per Page:** Determine how many slides you want to print on each page.
- **Color Options:** Choose between color printing and grayscale printing.
- **Print Layout:** Select the specific print layout you want to use, such as "Full Page

3. Once you're satisfied with the print settings and preview, click the Print button. Your presentation will be sent to the printer you selected.

Chapter 2

A. Fill in the blanks with the help of the words given in the box.

1. sorting 2. descending 3. filter 4. Conditional formatting 5.data validation 6.editing 7. Home 8. Goal seek

B. Write true (T) or false (F).

1. T 2. T 3. F 4. T 5.F

C. Match the following:

1.(i) 2.(i) 3.(i) 4.(i)

D. Answer the following questions.

1. **Sorting** is the process of arranging data in specified order, either ascending or descending order. There are two ways in which we can sort the data in Excel:

Ascending Order: This is used to arrange the data in increasing order. For example, arranging letters from A to Z and numbers from the lowest to the highest.

Descending Order: This is used to arrange the data in decreasing order. For example, arranging letters from Z to A and numbers from the highest to the lowest.

2. Filtering data is used to display data that meet certain conditions specified by the user. The other rows get hidden temporarily. You can filter rows in Excel worksheets by value, by format and by criteria. This can be used to analyses data quickly.

Steps to filter data

1. Select the range and click on the **Data** tab.
2. Click on **Filter** option from **Sort & Filter** group.
3. A drop-down list with the arrow will be added to each column heading.
4. Click on the arrow appearing on the column heading.
5. Check any value(s) that you want to display. For example, if you want to see records only for Computers and Mechanical, then select only those check boxes.
6. Click on the **OK** button.
7. Observe that the data matching the selected criteria is displayed.

3. Conditional Formatting allows you to apply formatting of cells based on certain conditions. For example, we can change the appearance of cells that meet the specified conditions such as we can display marks of students who scored less than 40 in red colour.

Steps for Conditional Formatting

1. Select the range of cells on which you want to apply conditional formatting
2. Go to the **Home** tab.
3. Select **Conditional Formatting** option from **Styles** group.
4. Select the **Highlight Cells Rules** option to specify condition.
5. Click on **Between** from the sub-menu that opens.
6. In the appeared dialog box, type the value. For example, if we want to display the records of employees who receive salaries between 45000 and 90000. Type 45000 in the first box and 90000 in another box.
7. Select the formatting style such as **Green Fill with Dark Green Text.**

8. Click on the **OK** button.
9. The records will be highlighted by the specified conditions.

4. Data validation is one of the most powerful Excel capabilities. It restricts the type of data or the values that users enter into a cell.

How to use Data Validation

1. Select the cell(s) for which you want to apply validation.
2. Go to **Data** tab.
3. Select **Data Validation** option from **Data Validation** drop down in **Data Tools** group. The **Data Validation** dialog box will appear.
4. On the **Settings** tab, under **Allow**, select an option: ¤ **Whole Number** - to restrict the cell to accept only whole numbers.

¤ **Decimal** - to restrict the cell to accept only decimal numbers.
¤ **List** - to pick data from the drop-down list.
¤ **Date** - to restrict the cell to accept only date.
¤ **Time** - to restrict the cell to accept only time.
¤ **Text Length** - to restrict the length of the text.
¤ **Custom -** for custom formula.

4. Under **Data**, select the condition.

Data Validation dialog box

6. Set the other required values based on what you choose for **Allow** and **Data**.

7. Select the **Input Message** tab and customize a message that will be visible to users while entering data.
8. Select the **Show input message when cell is selected** checkbox to display the message when the user selects or hovers over the selected cell(s).
9. Select the **Error Alert** tab to customize the error message and to choose a **Style**.
10. Click on **OK** button.

Now, if the user tries to enter a value that is not valid, an Error Alert appears with your customized message.

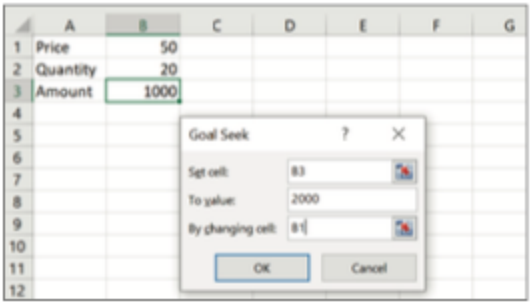
5.

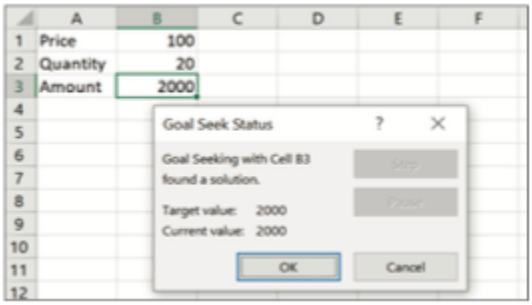
Goal seek is the process of finding the correct input value when only the output is known. The process involves using a specific operator in a formula, which can be calculated using computer software. It is one of the tools used in “what-if-analysis”.

Consider the following dataset, where Price is stored in B1, Quantity is stored in B2 and Amount is stored in B3. As displayed Amount is Rs. 1000 that is calculated by Product formula (Select B3 than press = and then type B1*B2 and press Enter.). Now if we want to change the amount to be Rs. 2000, there are two options: Either we can change Price or Quantity. Here, we are going to change Price so that output target value, i.e., Rs. 2000 in Amount is achieved. Following steps are used for the same:

1. Click on cell **B3**.
2. Go to the **Data** tab.

3. Click on **What-If-Analysis**.
4. Click on **Goal Seek**.
5. In the appeared dialog box, enter 2000 in **To value** box and B1 in **By changing cell** box.
6. It will change the value of Price so that the desired result can be achieved.





Chapter 3

A. Fill in the blanks with the help of the words given in the box.

1. function 2. =(equal sign) 3. SUM() 4. COUNT() 5.logical 6.three
7. two 8. COUNTBLANK() 9. COUNTA() 10. LEFT()

B. Write true (T) or false (F).

1. F 2. T 3. F 4. T 5.T

C. Answer the following questions.

1.

Base	Formulae	Functions
Definition	**Formulas or formulae are expressions that perform calculations on values in cells, ranges of cells, or even entire columns and rows.**	**A function is a predefined formula that performs specific calculations.**

Predefined	**In Excel, formulas are written by users using a combination of operators, functions and cell references. They enable users to automate various tasks and perform complex calculations.**	**Functions allow you to perform complex operations without having to write the actual mathematical formula yourself. In Excel, you can use functions to perform mathematical, statistical and logical operations.**

2. SUM()Function

The SUM() function is one of the most commonly used mathematical functions. It is used to add all the values which are specified in arguments.

Average() Function

The Average() function is used to return the arithmetic mean of specified numbers. You can use this function to calculate the average of values.

3. COUNT() Function

This function is used to count the total number of cells in a range that contain numerical values. It does not include the cells which are blank or that contain data in another format apart from numeric.

COUNTA() Function

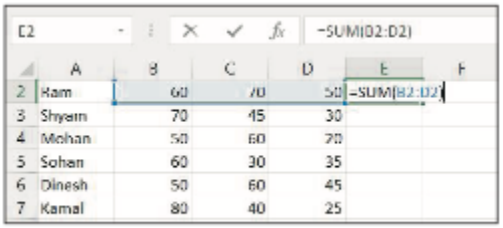
If we want to count all the cells with any type of data(text, numbers or any other format), we can use the COUNTA () function. However, it does not include blank cells.

4. (a) SUM() : The SUM() function is one of the most commonly used mathematical functions. It is used to add all the values which are specified in arguments. Consider a worksheet given below that has marks of students in three different subjects. Now, follow given steps to display Total.

	A	B	C	D	E
1	Name	English	Hindi	Maths	Total
2	Ram	60	70	50	
3	Shyam	70	45	30	
4	Mohan	50	60	20	
5	Sohan	60	30	35	
6	Dinesh	50	60	45	
7	Kamal	80	40	25	

Entering data

1. Go to the cell where you want the total to be displayed. In this example, select cell E2.
2. Type =**SUM**( )in cell E2.



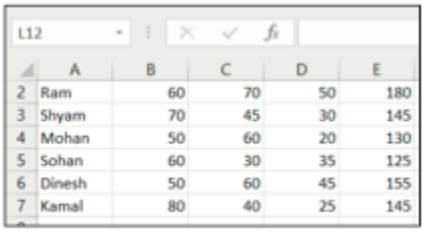
Using formula

3. Click and drag to select the range of cells containing the marks, i.e., cells B2, C2, and D2.
4. The formula in cell E2 should now look something like this: =SUM(B2:D2).

5. Press **Enter** key. The result will be displayed in the cell E2.
6. Select the cell E2.

	A	B	C	D	E
1	Name	English	Hindi	Maths	Total
2	Ram	60	70	50	180
3	Shyam	70	45	30	
4	Mohan	50	60	20	
5	Sohan	60	30	35	
6	Dinesh	50	60	45	
7	Kamal	80	40	25	

Output



Dragging formula

7. Drag to select cells E3 to E7.
8. The total marks will be pasted into selected cells.

(b) AVERAGE() :

Average() Function

The Average() function is used to return the arithmetic mean of specified numbers. You can use this function to calculate the average of values. To find the average of values, the steps to be followed are:

1. Go to the cell where you want the Average to be displayed. In this example, select cell F2.
2. Type =**Average**( )in cell F2.
3. Click and drag to select the range of cells containing the marks, i.e., cells B2, C2 and D2.

	A	B	C	D	E	F
1	Name	English	Hindi	Maths	Total	Average
2	Ram	60	70	50	180	
3	Shyam	70	45	30	145	
4	Mohan	50	60	20	130	
5	Sohan	60	30	35	125	
6	Dinesh	50	60	45	155	
7	Kamal	80	40	25	145	

	A	B	C	D	E	F	G
1	Name	English	Hindi	Maths	Total	Average	
2	Ram	60	70	50	180	=average(b2:d2)	
3	Shyam	70	45	30	145		
4	Mohan	50	60	20	130		
5	Sohan	60	30	35	125		
6	Dinesh	50	60	45	155		
7	Kamal	80	40	25	145		

Writing formula

4. The formula in cell F2 should now look something like this: **=Average(B2:D2)**

5. Press the **Enter** key. The result will be displayed in the cell F2.

	A	B	C	D	E	F
1	Name	English	Hindi	Maths	Total	Average
2	Ram	60	70	50	180	60
3	Shyam	70	45	30	145	
4	Mohan	50	60	20	130	
5	Sohan	60	30	35	125	
6	Dinesh	50	60	45	155	
7	Kamal	80	40	25	145	

Output

	A	B	C	D	E	F
1	Name	English	Hindi	Maths	Total	Average
2	Ram	60	70	50	180	60.00
3	Shyam	70	45	30	145	48.33
4	Mohan	50	60	20	130	43.33
5	Sohan	60	30	35	125	41.67
6	Dinesh	50	60	45	155	51.67
7	Kamal	80	40	25	145	48.33

Dragging formula

6. Select the cell F2.
7. Drag to select cells F3 to F7.
8. The average marks will be pasted into selected cells.

(c) LEFT():

LEFT() function

This function is text manipulation function. It is used to retrieve specified number of characters from the left side of the string. It takes two arguments; the first argument is - the cell where the text is located and the second argument is - number of characters to be retrieved.

For example,

=Left("Binary Education",3)

In the given worksheet, if you want to extract first 3 characters from the Name, then you have to follow these steps:

	A	B	C	D	E
1	Name	English	Hindi	Maths	First 3 Characters
2	Ram	60	70	50	
3	Shyam	70	45	30	
4	Mohan	50	60	20	
5	Sohan	60	30	35	
6	Dinesh	50	60	45	
7	Kamal	80	40	25	

Entering data

1. Go to **Cell E2**.

	A	B	C	D	E
1	Name	English	Hindi	Maths	First 3 Characters
2	Ram	60	70	50	=left(a2,3)
3	Shyam	70	45	30	
4	Mohan	50	60	20	
5	Sohan	60	30	35	
6	Dinesh	50	60	45	
7	Kamal	80	40	25	

Using left () function

2. Type the function:

Cell Address where string is located

Number of characters to be extracted

=left(A2,3)

3. Press the **Enter** key. The result will be displayed in Cell E2.

	A	B	C	D	E
1	Name	English	Hindi	Maths	First 3 Characters
2	Ram	60	70	50	Ram
3	Shyam	70	45	30	Shy
4	Mohan	50	60	20	Moh
5	Sohan	60	30	35	Soh
6	Dinesh	50	60	45	Din
7	Kamal	80	40	25	Kam

Dragging formula

	A	B	C	D	E
1	Name	English	Hindi	Maths	First 3 Characters
2	Ram	60	70	50	Ram
3	Shyam	70	45	30	
4	Mohan	50	60	20	
5	Sohan	60	30	35	
6	Dinesh	50	60	45	
7	Kamal	80	40	25	

Output of left () function

4. Use Select and drag to copy the function to other cells.

(d) IF():

Using Countblank () Function Output of Countblank () Function

IF() Function

IF () function is used to perform logical comparisons and make decisions based on those comparisons. It takes three parameters

1. **Logical test/condition:** It can be any logical expression that can be either true or false.
2. **Value that will be returned, if the condition is TRUE:** If the logical test evaluates to true, this is the value that will be returned.
3. **Value that will be returned, if the condition is FALSE:** If the logical test evaluates to false, this is the value that will be returned.

For example, in the given worksheet if Average of student is above 50 you want to display PASS otherwise FAIL under Result column, you have to use IF () function.

The steps to use IF () function are:

	A	B	C	D	E	F	G
1	Name	English	Hindi	Maths	Total	Average	Result
2	Ram	60	70	50	180	60	
3	Shyam	70	45	30	145	48.33	
4	Mohan	50	60	20	130	43.33	
5	Sohan	60	30	35	125	41.67	
6	Dinesh	50	60	45	155	51.67	
7	Kamal	80	40	25	145	48.33	

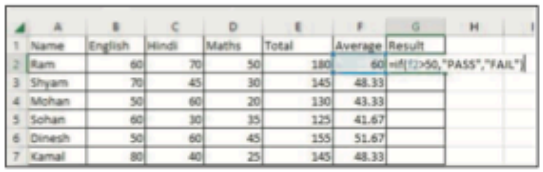
Data for using if () Function

1. Go to **Cell G2**.

2. Type the function:

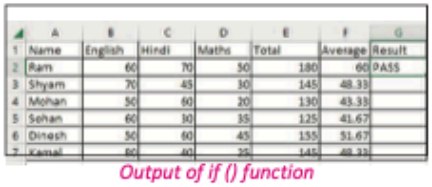
Condition | Result to be displayed when condition is TRUE | Result to be displayed when condition is FALSE

=if(f2>50,"PASS","FAIL")



Entering the formula

3. Press the **Enter** key, result will be displayed in Cell G2.



Output of if () function

	A	B	C	D	E	F	G
1	Name	English	Hindi	Maths	Total	Average	Result
2	Ram	60	70	50	180	60	PASS
3	Shyam	70	45	30	145	48.33	FAIL
4	Mohan	50	60	20	130	43.33	FAIL
5	Sohan	60	30	35	125	41.67	FAIL
6	Dinesh	50	60	45	155	51.67	PASS
7	Kamal	80	40	25	145	48.33	FAIL

Dragging formula

4. Select the cell G2 and drag to G7. Result will be displayed in selected cells. Use **Copy & Paste** to copy the function to other cells.

Chapter 4

A. Fill in the blanks with the help of the words given in the box.

1. text 2. Layers 3. Paint Brush 4. Ink Bottle 5.stage

B. Write true (T) or false (F).

1. F 2. T 3. T 4. T 5.F

C. Tick (✓) the right answer.

1.(ii) 2.(ii) 3.(iv) 4.(i) 5.(iv)

D. Descriptive type Questions

1.

1. Adobe Animate CC provides simple drawing tools that allow students to create basic shapes, lines and colors.
2. It can create simple animations by drawing on individual frames.
3. Adobe Animate CC is primarily used for creating 2D animations, interactive multimedia content etc.
4. Animate CC uses vector graphics, which means that the artwork and animations are resolution-independent and can be scaled without loss of quality.
5. You can export your animations to various formats such as GIF, video (MP4) and interactive HTML5.
6. You can add sound effects to your animations to make them more engaging.

2.

Menu bar: Menu Bar is a horizontal menu that appears on the top of the animate CC window. The most commonly used functions and commands

are included in the menu bar such as open, close and save a file.

Tools Panel: Tools Panel has tools that lets you draw, paint, select and modify artwork, as well as change the view of the stage so as to make the creation more pleasing.

Stage: Stage is the rectangular area where you place graphic content while creating your drawings or animations.

Properties Panel: Properties panel allows users to view and modify properties and settings associated with selected objects, elements, frames or layers in an animation project. It provides a convenient way to adjust attributes such as position, size, color, text formatting, symbol properties, filters, layer settings, frame properties and more.

Layers: Layers help you organize the artwork in your document. You can draw and edit objects on one layer without affecting objects on another layer.

Timeline: Timeline organizes and controls the content of the document over time in layers and frames. In Timeline, frames are arranged in a numbered grid. It indicates the current frame displayed on the stage.

3.

The Tools panel contains various tools for drawing, selecting and modifying objects on the stage. It includes tools like the Brush tool, Selection tool, Text tool etc. Adobe Animate CC provides a variety of drawing tools that allow users to create and manipulate graphics and animations. Some of these are- Brush Tool, Pencil Tool, Line Tool, Text Tool etc.

4. Eraser Mode Modifier helps the user to select the required erasing mode. This icon includes many options which are as follows:

Erase Normal: This mode erases everything which is present on the stage.

Erase Fills: This mode erases only fills with lines remaining unaffected.

Erase Selected Line: This mode erases only selected fills with lines and unselected fills with lines remain unaffected.

Erase Lines: This mode erases only the fill on which you begin the eraser stroke with lines remaining unaffected. If you start erasing from an empty point, nothing is erased.

5. Layers help you organize the artwork in your document. You can draw and edit objects on one layer without affecting objects on another layer.

Chapter 5

A. Fill in the blanks with the help of the words given in the box.

1. Trojan horse 2. malware 3. antivirus 4. ransomware

B. Write true (T) or false (F).

1. T 2. T 3. T 4. T

C. Tick (✓) the right answer.

1.(i) 2.(ii) 3.(iii) 4.(ii)

D. Descriptive type Questions

1.

Vital Information Resources Under Seize is referred to as VIRUS. A computer virus is a type of malicious software, or malware, that spreads between computers and causes damage to data and software. Computer viruses aim to disrupt systems, cause major operational issues and result in data loss and leakage. A key thing to know about computer viruses is that they are designed to spread across programs and systems. Computer viruses typically attach to an executable host file, which results in their viral codes executing when a file is opened.

2.

A form of malware known as spyware is placed on computers and gathers data of users without their knowledge. Spyware is frequently difficult to detect and usually hidden from the user. Spyware programs linger on your computer, stealing vital data like your passwords, logins and other personally identifiable information before sending it to a third party.

3.

Trojan Horse malware is named after the wooden horse used by the Greek army to conquer the city of Tray. A Trojan Horse program appears to do a necessary and desirable task. A Trojan Horse harms the computer or jeopardizes its security but neither duplicates nor copies itself. A Trojan

Horse can appear as a funny application or other software, but it must be sent by someone or carried by another program. These are frequently used to record usernames and passwords.

Example of Trojan Horses:

- Remote access Trojans (RATs)
- IRC Trojans (IRC bots)
- Backdoor Trojans (Backdoors)
- Keylogging Trojans

4.

A computer program used to stop, find and get rid of malware is anti-virus software, also referred to as anti-malware. The initial purpose of antivirus software was to find and eliminate computer infections. During a file, program or application scan, antivirus software checks a particular set of code with data from its database. It considers code to be malware and quarantines or removes it if it resembles or is identical to a known piece of malware found in the database. Some examples of antivirus software are ESET, McAfee, NOD32, Norton, Avast, Panda, Kaspersky, Microsoft security Essential etc.

Chapter 6

A. Fill in the blanks with the help of the words given in the box.

1. container 2. malware 3. start 4. Rounded corners

B. Write true (T) or false (F).

1. T 2. T 3. F 4. F

C. Tick (✓) the right answer.

1.(i) 2.(ii) 3.(iii) 4.(ii)

D. Descriptive type Questions

1.

If you want to work in web development, the first language you should learn is HTML. HTML is a markup language that is lightweight and fast to load. When you use your browser to contact a server, you will receive on HTML and CSS response. HTML has several tags, which make your web page more appealing and recognizable. HTML5 has recently added additional tags and features to help with the creation or professional-looking web pages.

Example:

```
<!DOCTYPE html>
<html lang="en">
<head>
        <meta charset="UTF-8">
        <meta name="viewport" content="width=device-width, initial-scale=1.0">
        <title>My First Webpage</title>
</head>
<body>
        <header>
        <h1>Welcome to My First Webpage!</h1>
        </header>

        <main>
```

```
        <p>This is a paragraph on my first webpage. HTML is fun!</p>
        <a href="https://www.example.com" target="_blank">Click here to visit
www.marutiprakashan.com</a>
        </main>

        <footer>
        <p>Created by Maruti Prakashan &copy; 2025</p>
        </footer>
</body>
</html>
```

2.

There are some basic rules we have to follow to write HTML codes. These are:

- ¤ Container tags should always be closed properly.
- ¤ Values in the attributes should be enclosed within the double quotes.
- ¤ Tag names should not contain spaces.
- ¤ There should be no spaces between < and > in a tag.
- ¤ Tags must be nested correctly.

3.

There are three ways to use CSS styles in HTML documents. These are:

1. Inline Styles

Inline styles are applied directly to individual HTML elements using the style attribute. These styles have the highest specificity, meaning they override other styles.

<body style = “color: blue; font-size: 18px;”>This is an inline style. </body>

- ¤ **Pros:** Inline styles are quick to apply and override other styles easily.

¤ **Cons:** They can make the HTML code less maintainable and harder to manage for larger projects.

2. Internal Styles(Embedded Styles)

Internal styles are defined within the <style> element in the <head> section of an HTML document. They apply to all elements on that specific page.

¤ **Pros:** Internal styles keep CSS code separate from HTML making it more maintainable.

¤ **Cons:** They apply only to the current HTML document, so you need to duplicate styles for multiple pages.

3. External Styles(Linked Style sheets)

External styles are defined in separate CSS files and linked to HTML documents using the <link> element. These styles can be reused across multiple webpages.

¤ **Pros:** External styles promote code reusability and maintainability.

¤ **Cons:** An additional HTTP request is made to load the external CSS file, which may slightly slow down the page loading.

4.

There are four sets of HTML tags that form the basic structure needed for every HTML file:

¤ <HTML>...</HTML>
¤ <HEAD>...</HEAD>
¤ <TITLE>...</TITLE>
¤ <BODY>...</BODY>

<!DOCTYPE html>

A doctype, also known as a document type declaration, is a directive that informs the web browser of the markup language used to create the current page. It is not a tag or an element. There is no case distinction in the doctype statement.

<HTML>...</HTML>

This basically defines the document as a web page. It also identifies the beginning and end of the HTML document. All other tags must fall between the html tags.

<HEAD>...</HEAD>

The header contains information about the document that will not appear on the actual page such as the title of the document, the author etc.

<TITLE>...</TITLE>

The title tag defines the title that will appear in the title bar of your web page. The title must appear between the head tags.

<BODY>...</BODY>

The body tags contain all the information and other visible content on the page. All your images, links and plain text must go between the body tags.

Chapter 7

A. Fill in the blanks with the help of the words given in the box.

1. set 2. rectangle 3. stop 4. Diamond 5. counter

B. Write true (T) or false (F).

1. T 2. F 3. T 4. T 5. T

C. Tick (✓) the right answer.

1.(i) 2.(i) 3.(iv) 4.(iv) 5. (i)

D. Descriptive type Questions

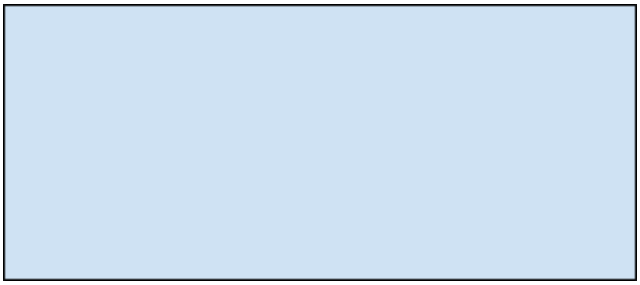
1.

The symbols used in making a flowchart are as follows:

Start/stop Box or Terminal Box: This box is used to indicate the **beginning** and the **end** of a flowchart. The shape of this box is a **rounded-rectangle**.

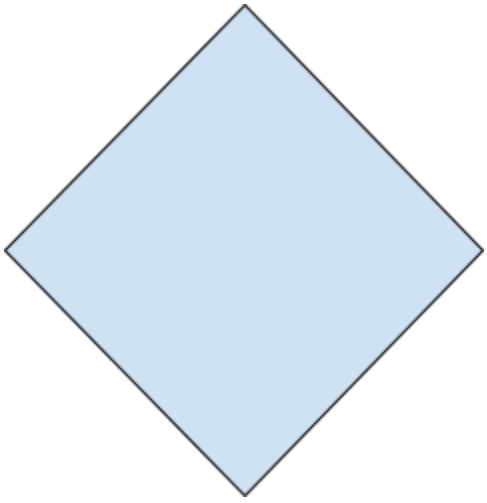
Input/ Output Box: This box is used while **accepting** an input or **displaying an output**. The shape of the box is a **parallelogram**.

Process Box: Any **action performed** in the flowchart, like addition or subtraction, are depicted by this box. A **rectangle** is used to represent this box.



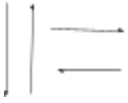
Decision Box

This box is used for **testing a condition** or **making a decision**. The condition can be in the form of yes/ no or true/false. The shape of this box is a **diamond**.



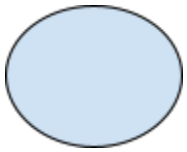
Flow Lines

These lines **connect** one symbol in a flowchart to another. **Arrows** are used as flow lines. The direction of the arrows show the flow of information.



Connector

Sometimes a flowchart is long and can lead up to many pages. This symbol connects one part of the flowchart to another. Using this symbol we can connect different parts of a flowchart. A circle is used for this purpose.



2.

Algorithm	Flowchart
A systematic list of instructions to perform a task is known as an **algorithm**.	A flowchart involves a **diagrammatic representation of steps** required to be followed for solving the problem.
To make an algorithm we make a clear precise list of steps that are to be followed one after another in order to solve the problem.	Flowchart is a pictorial representation, thus it helps in easy understanding of the steps that are to be followed. In a flowchart, we use symbols and shapes for the operation and to show their order, we connect them with lines.

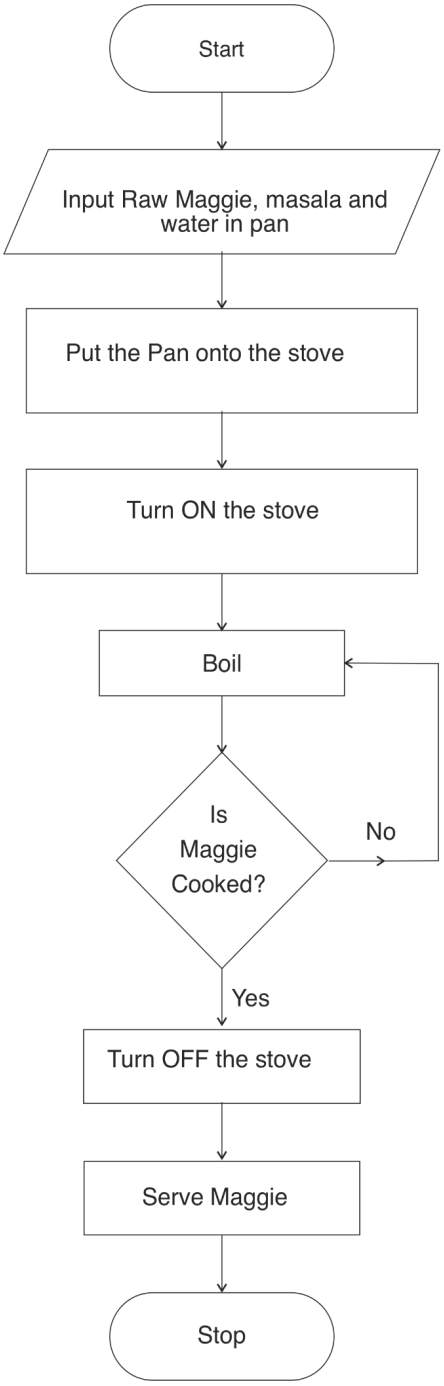
3.

Following are some guidelines to design flowcharts. (Any five)

1. In drawing a proper flowchart, all necessary requirements should be listed out in a logical order.

2. The flowchart should be clear, neat and easy to follow and understand. There should not be any room for doubt in understanding the flowchart.
3. The usual direction of the flow of a procedure is from left to right or top to bottom.
4. Only one flow line should come out from a process box.
5. Only one flow line should enter a decision box, but two or three flow lines, one for each possible answer, should leave the decision box.
6. Only one flow line should be used for a terminal box.
7. Write within standard flowchart symbols. If necessary, you can use the other symbols to describe the data or computational steps, more clearly.
8. Avoid the intersection of flow lines if you want to make it more effective. It is a better way of communication.
9. Ensure that the flowchart has a logical start and stop.
10. It is useful to test the validity of the flowchart by passing it through simpletest data.

4.


Start
Input Raw Maggie, masala and water in pan
Put the Pan onto the stove
Turn ON the stove
Boil
Is Maggie Cooked?
No
Yes
Turn OFF the stove
Serve Maggie
Stop

5.

Step 1: Start

Step 2: Take two numbers, A and B

Step 3: Compare these two numbers, if A>B, then go to step 4. Else go to Step 5.

Step 4: Print A is greater.

Step 5: Print B is greater.

Step 6: Stop

Chapter 8

A. Fill in the blanks with the help of the words given in the box.

1. interactive 2. # 3. input() 4. variable 5. statement

B. Write true (T) or false (F).

1. T 2. F 3. F 4. F 5. T

C. Tick (✓) the right answer.

1.(i) 2.(iii) 3.(ii) 4.(iv) 5. (i) 6. (iii)

D. Descriptive type Questions

1. Python is an interpreted, high-level, interactive, and object-oriented programming language. It is known for its exceptional readability. It was initially created by **Guido van Rossum** in 1991 and has been further developed by the **Python Software Foundation**. This language was designed with an emphasis on making code easy to read and understand. Its syntax is simple which allows programmers to write programs in fewer lines of code.

Python uses an interpreter to convert its instructions into machine language, so that it can be understood by the computer. An interpreter processes the program statements one by one, first translating and then executing them.

2.

In Python, there are two primary modes of working:

Interactive Mode

Interactive mode allows us to interact with the Python interpreter directly. We enter commands one at a time and the interpreter immediately executes them and displays the results. This mode is useful for testing

small code. We will see the Python shell prompt (>>>) from where we can start entering Python commands.

Script Mode

Script mode involves writing our Python code in a text file, also known as a script or program file. Once we have written the code, we save it with a .**py** extension and then run the script using the Python interpreter. Script mode is suitable for writing larger programs.

3.

A variable is a named location used to store data in the memory. It can be thought of as a container that holds data that can be changed later in the program. We can create a variable by assigning a value to it using the assignment operator (=). For example:

```
>>> number = 10
```

Here, we have created a variable named number. We have assigned the value 10 to the variable. You can think of variables as a bag to store a book in it
and that book can be replaced at any time.

```
>>> number = 10.20
```

Initially, the value of the number was 10. Later, it was changed to 10.20

4.

We can use the assignment operator (=) to assign a value to a variable. For example to assign a value to a variable num, we will code like this:

```
>>> num = 10
```

Similarly, if we want to assign a text value to a variable, we put the value in inverted commas. So, we will code like this:

>>> website = “www.marutiprakashan.com”

>>> print website

Output:

www.marutiprakashan.com

In the above program, we have assigned the value www.marutiprakashan.com to the variable website.

Then, we displayed the value associated with the variable **website**, i.e., "**www.marutiprakashan.com**" using print command.

5.

In Python, data types represent the kind of value a variable can hold. Python is dynamically typed, which means we don't need to specify the data type explicitly. In Python, everything is an object, which means that every value has a type and associated attributes and methods. For example, a person's name is stored as an alphabetic value and address is stored as an alphanumeric value.

Numeric Types: Integers, floating point numbers and complex numbers fall under the Python numeric category. They are defined as **int**, **float** and **complex** classes in Python.

- int: It represents whole numbers without decimal points. It can be positive or negative. For example, 200, -30, etc.
- float: It represents numbers with decimal points or in exponential form. For example, -2.90, 3.14, etc.
- complex: It is represented as a+bj where a is the real part and b; is the imaginary part. For example, 2+3j, 1-3j, etc.

We can use the type( ) function to identify which class a variable or a value belongs to.

String: String represents sequences of characters enclosed in single **(' ')**, double **(" ")** or triple quotes **("")** or **("""")**. For example, 'hello', "Python", etc.

Boolean: It represents either True or False. It is used for logical operations and comparisons.

List: It is an ordered collection of items enclosed in square brackets []. Items can be of different types and can be changed after creation (mutable).

Tuple: It is an ordered collection of items enclosed in parentheses (). It is similar to lists, but they are immutable (cannot be changed after creation).

Dictionary: It is an unordered collection of key-value pairs enclosed in curly braces {}. In the dictionary, keys must be unique and can be of any immutable type (e.g., string, int, tuple).

Set: Sets are used to store multiple items in a single variable. A set is a collection which is unordered, unchangeable and unindexed. Set items are unchangeable, but you can remove items and add new items. Sets are written with curly brackets.

6.

Operators are special symbols that carry out arithmetic calculations or logical operations. The value that the operator operates on is called the operand.

Here, '**+**' is the operator that performs addition whereas, 2 and 3 are operands and 5 is the output of the operation.

Arithmetic Operators

Arithmetic operators are used to perform arithmetic operations, like addition, subtraction, multiplication, division, etc.

Operator	Name and meaning	Example
+	Addition - Adds two operands	x +y
-	Subtraction - Subtracts right operand from the left	x -y
*	Multiplication -Multiplies two operands	x *y
/	Division -Divides left operand by the right one (Always results into float)	x /y
%	Modulus -Remainder of the division of left operand by the right	x % y (remainder of x/y)
//	Float division -Divides one number by another and returns the result round down to the nearest whole number	x // y
**	Exponentiation -Left operand raised to the power of right	x**y (x raised to the power of y)

Chapter 9

A. Fill in the blanks with the help of the words given in the box.

1. John McCarthy 2. 1955 3. Purely reactive machines 4. Artificial narrow intelligence 5. Supervised, unsupervised

B. Write true (T) or false (F).

1. F 2. F 3. T 4. F 5. T

C. Tick (✓) the right answer.

1.(iii) 2.(ii) 3.(iii) 4.(ii)

D. Descriptive type Questions

1. Artificial Intelligence refers to the simulation of human intelligence programmed to think like humans and mimic their actions. The term may also be applied to any machine that exhibits traits associated with a human mind such as learning and problem solving.

In simple words we can say that, it is a branch of computer science that aims at creating computers or machines that are as intelligent as human beings.

John McCarthy, an American computer scientists, coined the term 'Artificial Intelligence' in the year 1955. He is known as father of AI.

He said AI is 'The science and engineering of making intelligent machines, especially intelligent computer programs.'

AI is a way of making a computer, a computer- controlled robot, or a software think intelligently, in the similar manner the intelligent humans think.

AI is accomplished by studying how human brain thinks and how humans learn, decide and work while trying to solve a problem, and then using the

outcomes of this study as a basis of developing intelligent software and systems.

2.

¤ **To Create Expert Systems :** The systems which exhibit intelligent behaviour, learn, demonstrate, explain and advice its users.

¤ **To Implement Human Intelligence in Machine :** Creating systems that understand, think, learn and behave like humans.

3.

Purely reactive machines are the most basic types of artificial intelligence. Such AI systems do not store memories or past experiences for future actions. These machines only focus on current scenarios and react on it as per possible best action. IBM's Deep Blue System is an example of reactive machines. Google's AlphaGo is also an example of reactive machines.

4.

Artificial Narrow Intelligence (ANI)

This type of AI includes systems that can perform tasks in an autonomous manner, using human-like capabilities. Since these machines can do only what they are programmed to do, they have a narrow range of competencies. These systems act intelligently, but are not intelligent. For example, Google Translate can only translate text from one language to another, but it cannot assure the quality and context of the language.

Artificial General Intelligence (AGI)

General AI is a type of intelligence which could perform any intellectual tasks with efficiency like a human. The idea behind the general AI to make such a system which could be smarter and think like a human by its own. Currently, there is no such system exist which could come under general AI and can perform any tasks as perfect as a human.

The worldwide researchers are now focused on developing machines with General AI. As systems with general AI are still under research, it will take lots of effort and time to develop such systems.

5.

Machine Learning (ML) is a subfield of AI which uses mathematical models to allow systems to learn and improve automatically from experience without being explicitly programmed. ML focuses on the development of computer programs which acquire data and use it to learn on their own. The learning process begins with observations or data in order to look for patterns in the data and make better decisions in the future based on the examples we provide to the machine. The main objective of ML is to allow computers and systems to learn automatically without human intervention and to act accordingly. The recommendation systems on music and video streaming services are examples of ML, ML algorithms are classified into two categories; supervised and unsupervised.

6.

Deep Learning (DL) is a subfield of ML which uses a particular model type called ‘Neural Networks’ (NN). This subset of AI is a technique that is inspired by the way a human brain filters information. It is associated with learning from examples. DL systems help a computer model to filter the input data through layers to predict and classify information. DL methods have proven to be more powerful than traditional ML algorithms and their prediction metric improves with the amount of data that exists, due to which there has been a trend of larger datasets over the last decade.

Another advantage DL offers over traditional ML algorithms is that a considerably less amount of data processing and manual data inspection needs to be done, rather it is done automatically as a part the learning process. DL is used in technologies such as driver-less cars. DL network architectures are classified into Multilayer Perception's (MLPs),

Convolutional Neural Networks (CNN), Recurrent Neural Networks (RNN) and Transformers.

7.

NLP is a subfield of AI related with the interactions between computers and human language. In NLP, human language is separated into fragments so that the grammatical structure of sentences and the meaning of words can be analyzed and understood in context. This helps computers read and understand spoken or written text in the same way as humans. It refers to the branch of computer science and AI concerned with giving computers the ability to understand text and spoken words in the same way human beings can. The following are some uses of NLP :

¤ Textandspeechprocessing ¤ QuestionAnswering ¤ MorphologicalAnalysis ¤ TextSummarization ¤ GrammarandErrorCorrectionetc.

8.

Some of the important ethical issues that we face today related to AI are as follows :

¤ PeoplearelosingtheirjobsduetoautomationinvolvingAIsystems.

¤ AI systems are not immune to making mistakes and they are also imperfect. So, there are risks involved due to the possibility of machines making mistakes.

¤ AI systems can develop bias towards a race, gender, or ethnicity through technologies such as face-recognition.

¤ TherearerisksandforthatsecurityisrequiredtokeepAIoutofreachofadversaries.

¤ Although hypothetically, artificial intelligence driven machines are likely to surpass human

beings to emerge as the most intelligent beings on the Earth.

¤ If AI continues to evolve rapidly, then the day is not far when it will be used to make machines that can feel and act. In that case will they be entitled to rights enjoyed by humans or animals.

9.

The history of artificial intelligence can be traced back to the time of classical philosophers. However, the term or the field of artificial intelligence formally came to be established in 1956 at a conference at Dartmouth College in Hanover, New Hampshire. The idea of artificial intelligence became clearer all through the 1700s and beyond that. Philosophers and scientists have ever since thought and surveyed the idea of how human thinking can be imitated or mimicked mechanically to be manipulated by a machine. The thought of turning this theory into reality was fueled when mathematicians, classical philosophers and logicians considered the manipulation of symbols. Gradually this manipulation gained form when the programmable digital computer, the Atanasoff-Berry Computer (ABC) was invented in the 1940s.

This invention inspired scientists and engineers to move in the direction of designing an ‘electronic brain’ or an artificially intelligent machine. Nearly a decade later, the term ‘Artificial Intelligence’ was first coined by John McCarthy in 1955. Following that the artificial intelligence field was founded during the Dartmouth College conference in 1956. It has Been more than 60 years that scientists are trying to make a machine with artificial intelligence that is closer to the intelligence of humans but have not completely succeeded till now.

Book 7

Chapter 1

A. Fill in the blanks with the help of the words given in the box.

1. 1100 2. 8 3. 2 4. 10 5.Number System 6.digits, letters

B. Write true (T) or false (F).

1. T 2. F 3. T 4. T 5.F

C. Tick (✓) the right answer.

1.(ii) 2.(iii) 3.(iii) 4.(iii)

D. Answer the following questions.

1.

The method to represent and work with numbers is called the **number system. Decimal number system** is the most common number system. Other popular number systems include **binary number system, octal number system, hexadecimal number system**, etc.
Since the computer is made up of electronic components, it can have only two states, either ON (1) or OFF (0). The data which is given to the computer is converted into binary form because a computer understands only binary language. Binary number system consists of only 0 and 1. It further converts the binary results into their decimal equivalent for output.

2.

All the computers use this number system during their operations. They convert the decimal input into its binary equivalent and further convert the binary result into decimal output.

Features of Binary number system

- This number system consists of only two digits *i.e.* 0 and 1.

- ¤ It has base 2.

Example: $(101)_2$, $(1101)_2$ etc.

The easiest way to vary instructions through electric signals is two-state system - on and off. On is represented as 1 and off as 0 though 0 is not actually no signal but signal at a lower voltage. The number system having just these two digits - 0 and 1 - is called **binary number system**. Each binary digit is also called a **bit**.

3.

The octal number system, or oct for short, is the base - 8 number system, and uses the digits 0 to 7.

Features of Octal number system

¤ This Number System Consists Of 8 Digits i.e.0 to 7.
¤ It has base 8.
¤ It can be converted into a Decimal number system.

Example: $(5010)_8$, $(50345)_8$, etc.

Octal number system is also a positional value system where each digit has its value expressed in powers of 8.

4. Decimal to Other Base System (Binary/Octal/Hexadecimal)

Step 1: Divide the decimal number to be converted by the value of the new base.
Step 2: Get the remainder from Step 1 as the rightmost digit (least significant bit *i.e* LSB) of the new base number.

Step 3: Divide the quotient of the previous divide by the new base.

Step 4: Record the remainder from Step 3 as the next digit (to the left) of the new base number.

Repeat Steps 3 and 4, getting remainder from right to left, until the quotient becomes zero in Step 3.

The last remainder thus obtained will be the Most Significant Bit (MSB) of the new base number.

5.

Number System	Base	Used Digits	Example
Decimal	10	0,1,2,3,4, 5,6,7,8,9	$(240)_{10}$
Hexa-decimal	16	0,1,2,3,4, 5,6,7,8,9 A(10), B(11) C(12), D(13) E(14), F(15)	$(F0)_{16}$

Chapter 2

A. Fill in the blanks with the help of the words given in the box.

1. Chart 2. area 3. category 4. plot 5.labels

B. Write true (T) or false (F).

1. F 2. F 3. F 4. T 5.T 6.T

C. Tick (✓) the right answer.

1.(iii) 2.(iii) 3.(iii) 4.(iii) 5.(ii)

D. Answer the following questions.

1.

A chart in Excel is a graphical tool that communicates data visually, helping the audience understand the significance of the numbers, comparisons and trends. Its main functions are data display and encouraging deeper exploration of a topic. Charts are used in situations where a simple table won't adequately demonstrate important relationships or patterns between data points.

There are various benefits of using charts in Excel. Some of them are as follows:

1. Excel charts make data easy to see and understand.
2. They help compare different pieces of information quickly.
3. Charts reveal patterns and trends in data.
4. They make it easier to study data relationships.
5. Excel charts can be interactive for exploring data.
6. Creating charts is faster than manually interpreting data tables.

2.

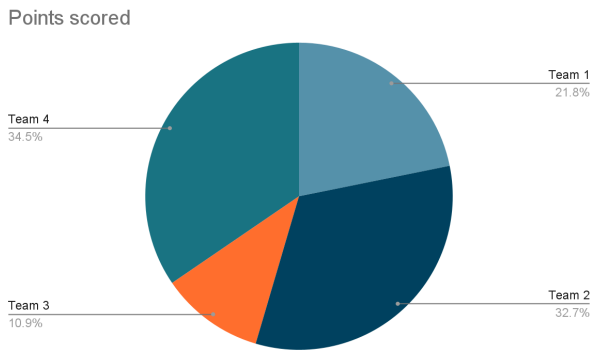
The various components of a chart are as follows:

1. Chart Title : It describes the aim and contents of the chart.
2. Chart Area :Chart area includes all the area and objects in the chart.
3. Category Axis : Category axis or X-axis is the horizontal axis of a chart.
4. Value Axis - Value axis or Y-axis is the vertical axis used to plot the values. It is located at the left side.
5. Data Series :Data series are the bars, slices or other elements that show the data values. If therearemultipledataseriesinthechart,eachwillhaveadifferentcolour or style.
6. Data Labels :Data labels are the category names which are displayed on the X-axis and Y- axis.
7. Plot Area :Plot area is a window within the Chart area. It contains the actual chart itself, and includes plotted data, data series, category and value axis.
8. Legend :It depicts the colours, patterns or symbols assigned to the data series. It helps to differentiate the data.
9. Gridlines :These can either be Horizontal or Vertical lines depending on the selected chart type. They extend across the plot area of the chart. Gridlines make it easier to read and understand the values.

3.

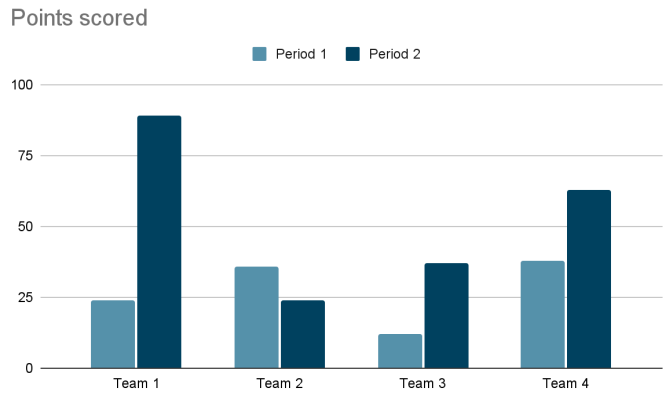
Pie Chart

A pie chart is a type of circular Excel chart which represents the visualization of data in circular format. Pie charts are used to display the contribution of each value (slice) to a total (pie). Pie charts always use one data series.

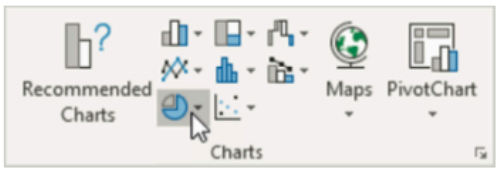


Column Chart

A column chart is a graph that shows vertical bars with the axis values for the bar displayed on the left side of the graph. Column charts are used to compare values across categories.



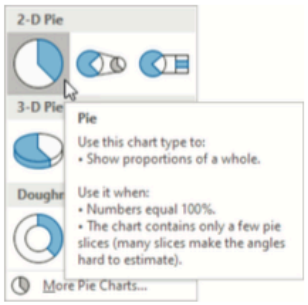
4.



Selecting Pie Chart Symbol

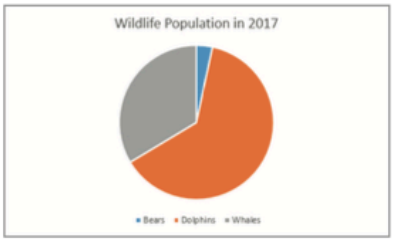
2. On the **Insert** tab, in the **Charts** group, click the **Pie** symbol.

3. Click Pie.



Choosing the Pie

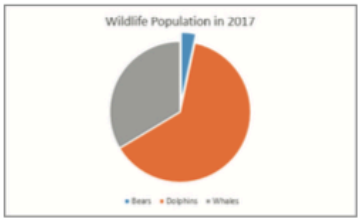
Result:



Pie Chart

4. Click on the **pie** to select the whole pie.
5. Click on a slice to drag it away from the center.

Result:



Pie Chart with Drag Slice

5.

Steps to Create a Pivot Table in Excel

1. **Prepare Your Data:** Ensure your data is in a tabular format, with columns having headers and no empty rows or columns within the dataset.

2. **Insert a Pivot table:**

¤ Select your data range.

¤ Go to the **Insert** tab in the Excel Ribbon.

¤ Click on **Pivot** Table. The **Create Pivot Table** dialog box will appear.

¤ Choose whether to place the PivotTable in a new worksheet or in an existing one.

3. **Building the Pivot Table:**

¤ Once the PivotTable field list appears, you will see four areas: Filers, Columns, Rows and Values.

¤ Drag and drop fields from your data into these areas to configure the **PivotTable**.

¤ For example, to analyze sales data by region and product, you might drag the “Region” field to Rows, the “Product” field to Column, and the “sales” field to Values.

4. Configuring Values:

¤ By default, numerical fields dropped into the Values area will be summed.

¤ To change the calculation type, click on the drop-down arrow next to the field in the Values area and select **Value Field Setting**.

¤ Choose from options like Sum, Count, Average, Max, Min, etc.

5. **Filtering Data**

¤ Drag fields to the Filters area to create dropdown filters for dynamic data analysis.

¤ Use these filters to include or exclude specific data points from your Pivot Table.

Chapter 3

A. Fill in the blanks with the help of the words given in the box.

1. Files, Tables 2. Table 3. duplication 4. MS Access

B. Write true (T) or false (F).

1. T 2. F 3. F 4. F 5.T

C. Tick (✓) the right answer.

1.(iii) 2.(ii) 3.(iii)

D. Answer the following questions.

1.

Database is a collection of data. It is a computer program that stores information in an organized way. It is used to store different types of data such as text, numbers, pictures, sound, videos etc.

A database can be as simple as the collection of phone numbers in a telephone directory or as complex as a database that provides complex information of a certain domain.

A database is maintained everywhere, from grocery stores to malls, schools to universities, small companies to big companies, and so on.

Some examples of database management are :

- Maintaining details of account holders in a bank.
- Organising lists and details of products in a store.
- Keeping records of students in a school.
- Maintaining information as links for websites.
- Maintaining details of employees in a company etc.

2.

Some benefits of using DBMS are mentioned below :

Eliminates Duplication of Data : It reduces data redundancy or duplication. For example, a company may have multiple files storing the details of its employees, such as personal details, official details, and so on. A DBMS integrates multiple files into a single database file. Hence, the data is centralised and eliminates the duplication of data.
User-friendly : DBMS manages data, saves time and energy since it lets a user search and retrieve information quickly and effectively.
Data Sharing : DBMS facilitates the users by allowing them to share and extract data from the centralised database as per their requirements.
Data Security : In a DBMS, the complete control over the database is in the hands of the database administrator. It ensures that the data is accessible only to the authorised users.
Data Integrity : A DBMS ensures that the data stored in it follows certain standards of an organisation. For example, a database of a company contains information about the salaries of its employees. If the minimum and maximum salary is set at Rs.10,000 and Rs.45,000, respectively, then you can set a criteria to make sure that the database accepts numeric values only in the range of 10,000 to 45,000.

3.

This type of database refers to the data files that contain plain text, which basically holds each line of text as one record. In a Flat File Database, the data is stored in an unstructured file called a 'flat file'. It is called so because the tables and records stored in it have no relation with other tables.

4.

This type of database stores the data and information in multiple tables with rows and columns. A Relational Database establishes a relationship between different database tables.
Examples: Microsoft Access, MySQL (My Structured Query Language), and Oracle.

5.

Microsoft Access, commonly known as MS-Access, is a Relational Database Management System (RDBMS) developed by Microsoft. MS-Access is an integral part of Microsoft Office Suite. MS-Access can store and organize a large amount of data in the form of tables. Since it is a relational database, it can recognize the relationship between the data tables to retrieve data. The relationship between the tables can be established using common fields.

6.

Some main features of MS-Access are as follows :

1. It provides the facility to create data forms so that the user can enter the required information in respective fields. It also reduces data entry errors.
2. It also provides data security features and maintains integrity which is useful to make our data more consistent and reliable.
3. It provides the facility of sharing data i.e., Query Different users can extract the information stored in the same database according to their need by using queries.
4. Forms allow users to add, update, delete, view data and establish relationships.
5. It has better efficiency, speed and flexibility in searching and accessing information.
6. Queries allow users to find the data and also retrieve data in a desired way.
7. Reports allow users to present the data in a meaningful and summarized manner.

7.

To close MS-Access Application we must follow the following steps:
Step 1. After finishing the work in Access, click on the Close option in the File menu to close the current database.
Step 2. To close MS-Access, click on File > Close button

8.

Maintaining a huge amount of data manually is not convenient since it needs to be uploaded frequently. Therefore, it is recommended to organize the data using a computer database, that is a database management system (DBMS).

DBMS is a software for creating and managing a database. It provides a systematic way to insert, retrieve and modify data within a database.

DBMS is basically a collection of programs that allows users to store, modify and extract information from a database. It is an immediate layer between application programs and the data. DBMS saves time and energy that help the users easily and quickly retrieve the data. Moreover, the chances of errors creeping into a database get reduced to a great extent with the use of DBMS. The most popular DBMS are Microsoft Access, MySQL, Oracle, DBase, FoxPro, etc

Chapter 4

A. Fill in the blanks with the help of the words given in the box.

1. Tables 2. Rows, Columns 3. data 4. Blank 5. records

B. Write true (T) or false (F).

1. T 2. F 3. F 4. F 5.T

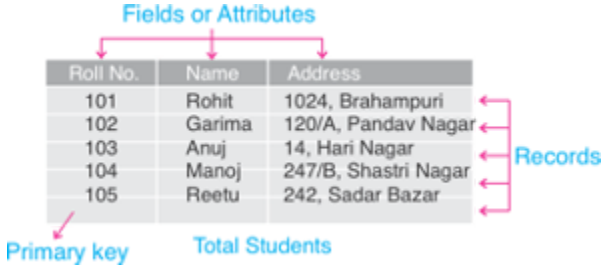
C. Tick (✓) the right answer.

1.(iii) 2.(i) 3.(iv) 4.(iv)

D. Answer the following questions.

1.

Tables are the key objects in a database. Tables are made up of rows and columns. Columns in a table are known as fields. A field consists of a single entry of a record, whereas rows are called records or tuples. A row consists of a complete record :



2.

A table is a database object, which is used to store information in an organised manner. A database can have one or more tables.

Each table contains information about a particular subject (such as students). A table consists of records and fields. Each record contains data about one instance of the table subject (such as a particular student). Each record consists of one or more fields. Each field contains data about one aspect of the table subject (such as a student's name, address etc.)

3.

Columns in a table are known as fields. A field consists of a single entry of a record, whereas rows are called records or tuples.

4.

In every database, there is a primary key, which contains the value(s) that helps the users to uniquely identify each record in a table. The primary key field in a table cannot contain the duplicate value. Remember, the field set as a primary key cannot be left blank while entering data.

Suppose, you have created a table containing the data of all the students of your class. You found that more than one student shares the same name. Therefore, you cannot set the 'First Name' field as the primary key. In such a case you can set Roll No. as the primary key, since there are no chances of duplicate values in these fields. This is because no two students can have the same Roll No. and there can be no students without Roll No. in the database.

5.

You first create the table's structure in the Design view, and then you switch to the Datasheet view to enter data. In the Design view, the Object window consists of two panes. The field Entry pane, located at the top of the window, is used to enter each field's name, data type and description. The field properties pane, located at the bottom of the window, is used to specify the field's properties. The properties available in the Field properties pane depend on the data type assigned.

To Create a Table in Design View:

Step 1: Click on the Create tab — Table Design button. A new, blank table opens in the object window in the Design view.

Step 2: In the Field Name column, type a name for the first field. Field names can be upto 64 characters long. They can include any combination of letters, numbers, spaces and brackets etc.

Step 3: In the Data Type column click the down arrow and select a data type from the list.

Step 4: In the Description column, type a description for the field.

Step 5: Repeat steps 2 through 4 to add additional fields to the table. After entering all the fields, save the table.

6.

If we have a field you don’t plan on editing or don’t want other people to edit, we can hide it. A hidden field is invisible but is still part of your database. Data within a hidden field can still be accessed from forms, queries, reports and any related tables.

To Hide a Field:

Step 1. Right click the field title, select the Hide Fields.
Step 2. The field will be hidden.

If we decide we would like the field to be visible again, we can unhide it. Simply right-click any field title, then select Unhide Fields. In the dialog box, click the checkboxes of any fields you would like to be visible again, then click Close.

7.

You can sort both text and numbers in two ways: in ascending order and descending order. Ascending means going up, so an ascending sort will arrange numbers from smallest to largest and text from A to Z. Descending means going down, or from largest to smallest for numbers and Z to A for text. The default ID number that appears in your tables is an ascending sort, which is why the lowest ID numbers appear first.

Chapter 5

A. Fill in the blanks with the help of the words given in the box.

1. Blocks 2. workspace 3. components 4. viewer 5. Create new app inventor project

B. Write true (T) or false (F).

1. T 2. T 3. T 4. T 5.F

C. Tick (✓) the right answer.

1.(ii) 2.(i) 3.(iii) 4.(iii) 5.(iii)

D. Answer the following questions.

1.

A computer uses programs to do various tasks. Mobile devices, such as smartphones and tablets, use apps to perform different tasks. An app is an abbreviation for an application program. An app is a program created for a specific hardware platform. Application program or app is a software designed to perform specific tasks on devices, such as smartphones, tablet computers, e-book readers and so on.

2.

In order to use an app, you need a mobile device with internet access. Like computers, mobile phones also have an operating system. Some commonly used mobile operating systems are Symbian, BlackBerry OS, Windows, Android and Apple iOS. Mobile operating systems have app stores from where you can search, download and install apps.

The steps to use an app are as follows:

1. Use a smartphone or any other internet-connected mobile device to access the online app store. If your mobile operating system is Android, you will use Google Play Store and if your mobile OS is Apple, you will use App Store. Microsoft users can download apps from the Windows Store.
2. After reaching the store, you enter the details of the app that you want to download. The store searches for your app.
3. Click on the app you want to download.

4. The installation process begins. Wait till the process is complete.
5. After the installation process is complete, the app icon is visible in the menu and is ready to work on the device. You can now access the downloaded app with a single tap or touch.

3.

Among many app developing software environments, App Inventor is widely used to develop apps for the Android operating system. It is an open-source web application. This popular app developing software was developed jointly by Google and Massachusetts Institute of Technology (MIT). It is an easy and innovative platform to introduce programming and app creation to beginners.
App Inventor uses a graphical interface that resembles Scratch programming interface where you just drag and drop components and blocks in different windows to design an application.

4.

The Designer Window is the window where you will develop the app.
The Designer window is divided into four panes Palette, Viewer, Components and Properties.

- **Palette :** This pane contains the components that are required to design a graphical user interface. It includes options such as User Interface, Layout, Media, Drawing and Animation and so on.
- **Viewer:** This pane has a screen where the components are arranged to show how the app you design will look.
- **Components :** This pane shows the list of the components that are arranged on the app screen. It shows a hierarchical view of the components.
- **Properties :** This pane shows various properties of the selected component. These properties are used to change the settings of the selected component.

5.

Components block : This pane shows the list of the components that are arranged on the app screen. It shows a hierarchical view of the components.

6.

When we click on the Blocks button on the top-right corner of the App Inventor window. The Blocks Editor window appears. The Blocks button at the top-right corner appears

dull green now and the Designer button appears white. This indicates that the Blocks Editor window is active.
The Blocks Editor window is divided into two panes: Blocks and Viewer.

Chapter 6

A. Fill in the blanks with the help of the words given in the box.

1. list 2. 3. <caption> 4. <OL> 5. <DD>

B. Write true (T) or false (F).

1. F 2. T 3. F 4. T 5.T

C. Tick (✓) the right answer.

1.(iii) 2.(i) 3.(iii) 4.(ii)

D. Answer the following questions.

1.

A computer uses programs to do various tasks. Mobile devices, such as smartphones and tablets, use apps to perform different tasks. An app is an abbreviation for an application program. An app is a program created for a specific hardware platform. Application program or app is a software designed to perform specific tasks on devices, such as smartphones, tablet computers, e-book readers and so on.

2.

A description list is used to create a list which can include terms and their descriptions. In HTML a description list or definition list displays elements in definition form. It begins and ends with <ol> and </dl> tags, respectively. You need the following tags to create a description list.

<dl> tag: It defines the description list.
<dt> tag : It defines the terms or names.
<dd> tag: It describes each term in the description list

3.

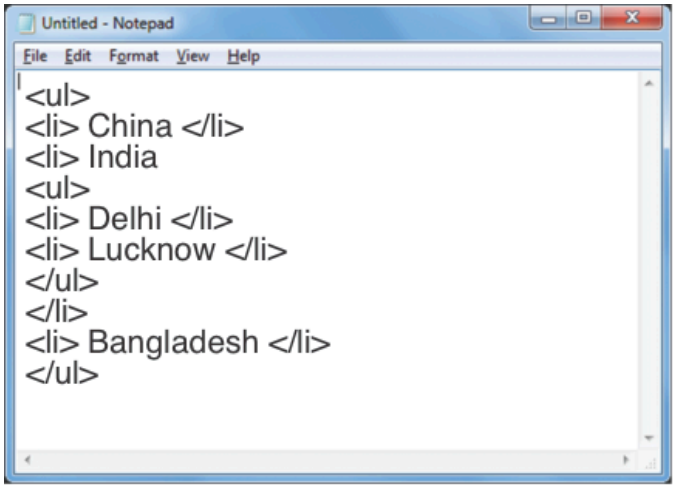
1.	An unordered list is a bulleted list of items.	An ordered list is a numbered list of items and is used to display the list in a specific order.
2.	It is created using the tag.	It is created using the tag.

3.	The tag is used to close an unordered list.	The tag is used to mark the closing of an ordered list.

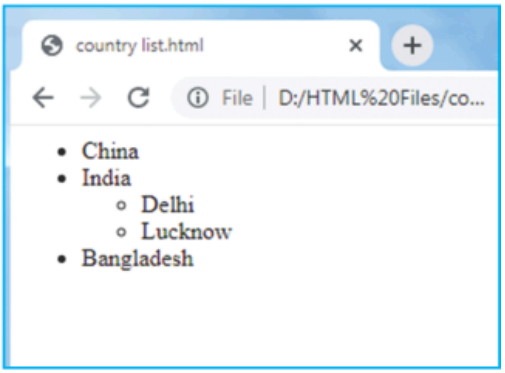
4.

A list inside another list forms a nested list. When a list item contains another entire list, it is known as "nesting" a list. An ordered and an unordered list can be nested within each other.

For example, the code as shown in figure (a) creates a nested unordered list and shows the output as in figure (b).



(a)



(b)

5.

A web page can include data in the form of text, images, and links. HTML also allows a user to display data in the form of a table. They are a flexible and visually appealing way of presenting the information in the form of rows and columns. Tables are used for displaying the data in a tabular format. Tables can also be used for designing and layout of a web page. But nowadays we can use CSS for this purpose. The benefits of presenting information in a tabular form are as follows :

- ➔ The information can be presented in a more comprehensive way.
- ➔ It is easy to do a comparative analysis of the data if it is present in the tabular form.

6.

HTML has some tags used to create a table. These tags are as follows :

<table> : The <table> tag is used to define a table in HTML. It begins with a <table> tag and closes with </table> tag. This tag is a container tag and is defined inside the <body> tag.

<tr> : This tag is used to define table rows. The <tr> tag shows the starting of the row.

<td> : This tag is used to define table data, that is, the data inside the rows. The data can be in the form of text, images, lists, and so on. The <table> tag in HTML creates a series of cells which are filled up using the <td> tag. It is a container tag.

<caption> : This is a container tag that is used to define the title of the table.

<th> : This container tag is used to specify a column heading. It makes the text bold and centred.

7.

Border-spacing : This property is used to define the distance between the border of the adjacent cells.

Syntax : border-spacing:value
where, value = horizontal spacing in px|cm
vertical spacing in px|cm

Caption-side : This property defines the placement of the table caption.

Syntax : caption-side:value
where, value = bottom|top

Empty-cells : This property defines whether border and background are to be placed around empty cells in a table or not.

Syntax : empty-cells:value

For example, if you do not want to display borders on empty cells, use the code given below.

empty-cells:hide

Height and width : Using these properties, the height and width of the table can be set.

Syntax: height:value
width:value

Chapter 7

A. Fill in the blanks with the help of the words given in the box.

1. Color 2. Background 3. bold 4. margin

B. Write true (T) or false (F).

1. F 2. T 3. F 4. F 5.F

C. Tick (✓) the right answer.

1.(i) 2.(i) 3.(ii) 4.(iii) 5.(ii)

D. Match the following columns.

1.(d) 2.(e) 3.(a) 4.(c) 5.(b)

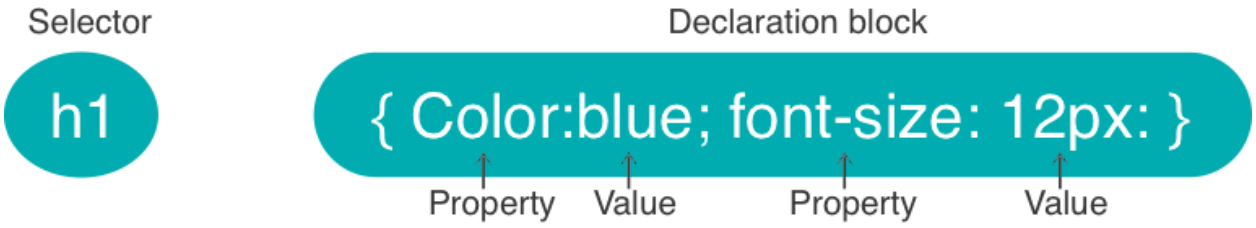
E. Answer the following questions.

1.

CSS stands for Cascading Style Sheet. CSS works with HTML to control the presentation of your web page. CSS saves a lot of effort. It can control the layout of multiple web pages all at once.

In simple words, CSS is used to style the web pages. CSS enhances the look and feel of your web pages and makes them more presentable.

Syntax of CSS style rule:



Syntax of CSS style rule

- The selector points to the HTML element you want to style.
- The declaration block contains one or more declarations separated by semicolons (;).

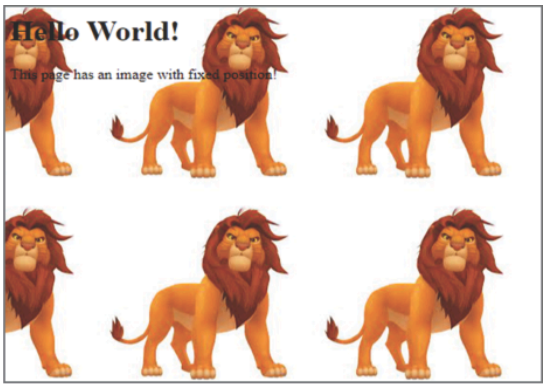
- Each declaration includes a CSS property name and a value, separated by a colon (:).
- A CSS declaration always ends with a semicolon, and declaration blocks are surrounded by curly braces.

2.

This property is used to set the position of the background image of an HTML element. We can set the background-position of the background image to 100px as shown below:

```
<html>
  <head>
    <style>
body {
     background-image: url("C:/Users/CSS/note.jpg");
    background-position:100px;
}
   </style>
   </head>
<body>
   <h1>Hello World!</h1>
   <p>This page has an image with fixed position!</p>
<body>
</html>
```

Setting background position of an image



Position of background image

3.

Usually CSS is written in a <style> tag inside of <head> tag, but there is one more place which is also valid. You can write CSS inside of a tag using the style attribute. When CSS is written using style attributes, it is called “inline style”. Let’s see how it is used in an HTML document.

Inline style looks and operates much like CSS, with a few differences. Inline styles directly affect the tag they are written in, without the use of selectors.

The style attribute is just like any other HTML attribute. It goes inside the element’s beginning tag, right after the tag name. The attribute starts with style, followed by the = sign then finally uses double quotes, “”, which contains the value of the attribute. Do not forget to use a semicolon ; after each pair.

```
<html>
  <head>
  <title> Playing with Inline Styles ! ! </title>
  </head>
<body>
  <p style="color:red;font-size:46px;">
  I'm big, red, <strong> strong </strong> paragraph </p>
<body>
</html>
```

Code for inline style attribute

The p tag with the style attribute is the focus here.
Inline styles are not so different from the way you used CSS before. For example, the inline style used above is almost similar to the following CSS rule:

```
P       { color: red;
          Font size: 46px;
          }
```

This rule works the same way as our inline style does, except for one thing. This rule will affect every p on the page, whereas the inline style will affect only the <p> it's written in.

Inline style attribute on the web page

4.

CSS text properties help you in styling your text. You can change color, alignment and add decoration properties to the text. You can set the following text properties of an element:

Property	Description
color	Used to set the color of text.
direction	Used to set the text direction such as right or left.

letter-spacing	Used to add or subtract spaces between the letters that make up a word.
Word-spacing	Used to add or subtract spaces between the words of a sentence.
text-indent	Used to indent the text of a paragraph.
text-align	Used to align the text of a paragraph. It can be center, left or right.
text-decoration	Used to underline, overline and strikethrough text.
text-transform	Used to capitalize text or convert text to uppercase or lowercase letters.
white-space	Used to control flow and formatting of text.
text-shadow	Used to set shadow around text.

Let us see how the text properties work in an HTML document. We will use all the properties using inline styling.

```
<html>
  <head>
  </head> .
<body> .
  <p style="color:red;direction:rtl;letter-spacing:5px; word-spacing:5px;
            text-align:center; text-decoration: underline;
            text-transform:uppercase; text-shadow: 4px 4px 8px blue">
This HTML document shows all the text properties.</p>
</body>
</html>
```

Setting text properties using inline styling

Text properties using CSS on the web

5.

CSS font property defines the font family, boldness, size and the style of a text. You can set the following font properties of an element:

- Font-family : Used to change the face of a font.
- Font-style : Used to make a font italic or oblique.
- Font-variant : Used to create a small-caps effect.
- Font-weight : Used to increase or decrease how bold or light a font can appear.
- Font-size : Used to increase or decrease the size of a font.
- Font : Used as shorthand to specify a number of font properties together.

6.

See page 86-89 from book

Chapter 8

A. Fill in the blanks with the help of the words given in the box.

1. operand 2. arithmetic 3. modulus 4. * 5. >=

B. Write true (T) or false (F).

1. T 2. F 3. F 4. T

C. Tick (✓) the right answer.

1.(iii) 2.(iii) 3.(ii) 4.(i) 5.(ii)

D. Answer the following questions.

1.

The order in which operators are executed in Python is known as the precedence of operators. For example, multiplication has higher precedence than subtraction in 10 - 4 * 2. But we can change this order using parentheses ( ) as it has higher precedence than multiplication as (10 - 4) * 2.
The operator precedence in Python is listed in the following table. It is in descending order (the upper group has higher precedence than the lower ones).

Operators	Description
()	Parentheses
**	Exponent
+X, –X	Unary plus, Unary minus
*, /, //, %	Multiplication, Division, Floor division, Modulus
+, –	Addition, Subtraction
<, >, <=, >=, ==, !=	Relational operators
not and or	Logical operators

When two operators have the same precedence, associativity helps to determine the order of operations. Associativity is the order in which an expression is evaluated that has multiple operators of the same precedence. Almost all the operators have left-to-right associativity.

For example, multiplication and floor division have the same precedence. Hence, if both of them are present in an expression, the left one is evaluated first.

2.

We can use the "*" operator both with string and number. When we use it with numbers it will multiply values on either side of the operator. For example: if a=4 and b=10; then a*b = 40

But if we use this operator with string, it will reprint the string values. For example: if a=Good; and if we use a*5, then it will print Good 5 times.

3.

The Logical operators are used to join two or more conditional expressions in Python. There are three logical operators, which are and, or and not. These operators always return either true or false values.
The following table shows different Logical operators used in Python, along with examples and results. Assume that the values for the variables a and b are true and false, respectively.

Operator	Description	Example	Output
and	It returns true if either both operands or conditional expressions are true, else returns false.	a and b	False
or	It returns true if either any of the operands or conditional expressions are true, else returns false.	a or b	True
not	It returns false if an operand or conditional expression is true and vice versa.	Not (a and b)	True

For example:

```
File Edit Format Run Options Window Help
a = 50
b = 70
print (a < b and b > a)
print (a > 60 or b < 50)
print (a <= b and b >= 80)
print (a != b)
print (not (b >= 80))
```

Output:

```
IDLE Shell 3.11.4
File Edit Format Run Options Window Help
True
False
False
True
True
>>>
```

4.

The if statement is used to test a specific condition. If the condition is true, the block of code under the if section will be executed and if the conditional expression evaluates to false, then it does nothing.

The following is the syntax of simple if statement

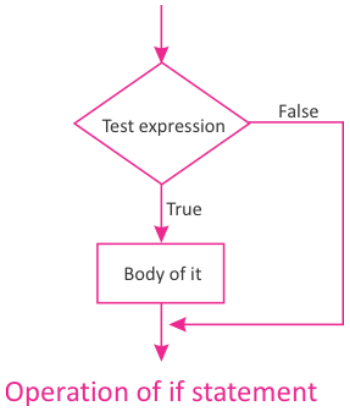
If <conditional expression>:
Statements (s)

```
File Edit Format Run Options Window Help
marks = 93

if marks > = 30:
    print ("Very Good!")
```

Output:

```
Very Good!
```



Operation of if statement

In the above example, the conditional expression (marks==93) has been evaluated to be true, therefore, the statement written after if is executed and 'Very Good!' is printed. In case if the given expression evaluates to false, then the subsequent statements written after if will be executed and printed as shown in the following example.

Example:

```
File Edit Format Run Options Window Help
marks = 80

if marks > = 90:
    print ("Very Good!")

print ("Do hard work")
```

Output:

```
Do hard work
>>> |
```

In the above example, the conditional expression (marks>=90) evaluates to false, the subsequent print ("Do hard work") statement is executed and 'Do hard work' is printed.

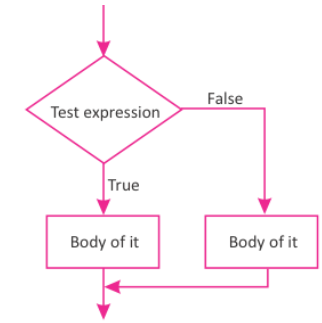
If...else statement

This statement is the same as the if statement. The only difference is that this statement also implements the code for the condition that does not hold true. This means that when the statement related to a condition is:

True, then the code under the if section gets executed.
False, then the code under the else section gets executed.

The following is the syntax of if...else statement..

```
if      <conditional expression>:
        Statement (s)
else:
        Statement (s)
```



Operation of if...else statement

Example :

```
File Edit Format Run Options Window Help
age = 21
if age >= 18:
      print ("You are eligible to vote.")
else:
      print ("You are not eligible to vote.")
```

Output:

```
You are eligible to vote.
>>>
```

In the above example, since the conditional expression evaluates to true the statement after if is executed and 'You are eligible to vote' is printed. If the condition is false, the statement written after the else is executed.

5.

In Python:

- `s = 30` is an **assignment**. It assigns the value `30` to the variable `s`. For example:

  ```
  s = 30  # s now holds the value 30
  ```

- `s == 30` is a **comparison**. It checks whether `s` is equal to `30` and returns `True` or `False`. For example:

  ```
  s = 30
  print(s == 30)  # True, because s is indeed 30
  ```

Computer 8

Chapter 1

A. Fill in the blanks with the help of the words given in the box.

1. HTTP, 2. Tree, 3. Switches, 4. WAN, 5. Network,

B. Write true (T) or false (F).

1. T 2. T 3. F 4. T 5. T

C. Tick (✓) the right answer.

1.(ii) 2.(i) 3.(i) 4.(i)

D. Answer the following questions.

1. Networking means connecting different places or things, so they can communicate or work together.

2. A computer network is a collection of interconnected computers and other devices such as printers and servers that can communicate with each other to share information, resources and services.

3. **Switches:** Switches are like traffic police in a network. They help devices on a network (like computers, printers, etc.) communicate efficiently with each other and with other networks, including the internet. They make sure that data gets to the right destination, kind of like directing traffic at an intersection.

Router: A router is a box that connects you not only to the internet but also to other networks. It allows you to share a single internet connection with multiple devices, like your computers, smartphones and tablets. This sharing of an internet connection among devices can save your money, as you don't need a separate connection for each device. It is the device that helps direct internet traffic to the right devices in your home or office network.

Modem: The word 'modem' comes from 'modulator demodulator'. It is a device that connects your home network to your Internet Service Provider

(ISP). Essentially, it helps in transferring data between your computer and the ISP using different types of wiring like telephone lines or cables.

4. There are various types of topologies that a network can use. The mains topologies available are:

1. Bus Topology: In this topology, a single cable, called a backbone with multiple points, is employed. All the computers, printers and other hardware are connected to this cable. Any electronic signal passed by any node can be received by all the nodes on this cable as the signal can travel in both directions. The cable has terminators at its end so that the signals passed may be absorbed by them. They do not clutter the network line.

2. Star Topology: Star topology is a network topology in which each network component is physically connected to a central node, such as router, hub or switch. When the central node receives a packet from a connecting node, it can pass the packet onto other nodes in the network.

3. Ring Topology (Circular Topology): This topology uses multiple links to form a loop of computers. Each computer is connected to the loop, thus forming a kind of a ring or a circle. A message or a token goes round the loop continuously. All the computers or the nodes are equipped with a Token Ring Adapter Card (TRAC), which helps them to read the token or the message that passes through the loop continuously.

4. Mesh Topology : In mesh topology, each node is connected to all the other nodes in the network. Every node not just sends data to other nodes but also receives data from all the other nodes. Therefore, if one connection breaks down it would not affect the remaining network's functionality. This topology is commonly used for wireless networks. Mesh topology provides fully connected, robust and nonflexible network structure.

5. Tree Topology: Tree topology is a combination of the Bus and the Star topology. In this type of a network arrangement, you can have multiple servers. These servers can be interconnected so that a user may access his/her own server as well as the bigger server, when needed. This technology is used when there are a large number of computers to be connected and there are distinct branches of an organization that need to be connected. It requires a lot of cables to be employed and the success of

the tree topology depends on the cables used.

5. Two advantages are given below:

1. Centralized storage of data: Files can be stored on a central server that can be shared and made available to each and every user in the organisation.

2. Anyone can connect to a computer network: There is a negligible range of abilities required to connect to a computer network. So, anyone can connect to the network.

Two disadvantages of a computer network are as follows:

1. Networks can be at risk of problems like hacking, viruses and data theft if they are not well protected.

2. Establishing and maintaining a network can be expensive, including the costs of hardware, software and IT personnel.

6. When you establish a network, you allow a number of people to access and share important data stored in the computers on the network. For this purpose, the network needs to be secured. There are generally two ways in which a network can be secured.

Login Security: Using this security measure, all the users who want to access the data are given unique usernames and passwords. Only those people who have username and passwords can access that data.

Rights Security: Rights security is a step forward to login security. Using this security measure, limited access rights can be given to users. Depending on the username, the access rights are limited to certain folders, where the user can access only certain folders pertaining to his/her own work.

Thus, we see that it is extremely important that the network is protected and unwarranted access and usage of data can either be prohibited or controlled. Under the Rights Security, if someone tries to access the other's files, a Rights prohibited message will pop up and the network administrator will be informed that a certain unauthorized person is trying to access the information.

Chapter 2

A. Fill in the blanks with the help of the words given in the box.

1. **image** 2. interface 3. **Lasso** 4. Menu 5. Move

B. Write true (T) or false (F).

1. T 2. F 3. T 4. T 5. F

C. Tick (✓) the right answer.

1.(ii) 2.(i) 3.(iii) 4.(i)

D. Answer the following questions.

1. Adobe Photoshop is an image editing software developed by the American brothers Thomas and John Knoll who sold the distribution license to Adobe Systems Incorporated in 1988. It is popularly known as Photoshop. Photoshop CS6 is a popular version of the world famous photo editing software Adobe Photoshop. It provides us a number of tools and features to work with the images. This software allows users to manipulate, crop, resize and correct colour in digital photos. It is mainly used by photographers, web developers and graphics artists.

2. There are many new features in Photoshop CS6, some of them are given below :

1. New Interface : Photoshop CS6 comes with a new darkened user interface. It is more stream lined and user-friendly.

2. Adobe Camera Raw 7.0 : Raw image files contain unaltered data captured by digital camera. Photoshop CS6 adds support for Adobe camera Raw 7.0, a plug-in for editing raw image files.

3. New Crop Tool : It's nondestructive and helps you play around with cropping variations.

3. **Uses of Adobe Photoshop**

1. You can make brand new images, painting or draw them using drawing tools.
2. To colour your digital images.
3. Giving effect to your digital images.
4. Merging two or more images to create a new composition.
5. Applying predefined filters to your image to give them new look.
6. To design web pages.
7. To make your images ready for printing or web publishing.

4. To save a file in Photoshop follow the steps given below :
Step 1 : Click Save option from the File menu. The Save As dialog box appears.
Step 2 : Type a name in the File name box.
Step 3 : Click on Save button.
5. The Marquee tools allows you to select different portions of an image in a specific range. Marquee tools are of following types :
1. Rectangular Marquee Tool : To make a selection in a rectangular shape.
2. Elliptical Marquee Tool : To make a selection in an elliptical or circular shape.
3. Single Row Marquee Tool : To make a selection as a row that is one pixel wide.
4. Single Column Marquee Tool : To make a selection as a column that is one pixel wide.
6. Eraser tool is used to erase the colour. Follow the given steps to use the Eraser tool :
Step 1 : Click on the Eraser tool and select the desired eraser tool from the list.
Step 2 : Click and drag the mouse over the image that you want to erase.
7. The Lasso tool is very useful tools for selecting Irregular shapes.
Crop tool is used to remove unwanted portion of the image and in other words to retain the desired area of an image. The area outside the selection is removed from the screen.
8. This tool is used to move the picture from one area to another.
In other words we can say that the move tool is used to drag a selected part of an image to a new location.

Chapter 3

A. Fill in the blanks with the help of the words given in the box.

1. Painting 2. Gradient 3. Lighten 4. Eraser 5. Filters

B. Write true (T) or false (F).

1. T 2. T 3. F 4. T 5. F

C. Tick (✓) the right answer.

1.(iii) 2.(ii) 3.(ii) 4.(i)

D. Answer the following questions.

1. The Brush Tool is used to create a smooth stroke of the foreground color. Follow the steps given below to use Brush Tool :

Step 1 : Open any image from the Pictures folder.

Step 2 : Select Magic Wand Tool with Tolerance settings of 32. Select the area you want to use brush on.

Step 3 : Select Brush Tool from the Tools Palette or Press B from the keyboard.

Step 4 : Select the drop-down list of Brush option from the Option bar.

Step 5 : Select the desired brush style from Brush Preset Picker, say, brush No. 74.

Step 6 : Click on Foreground Color box in Tools palette. The Color Picker dialog box will pop-up. Select the desired color.

Step 7 : Drag the pointer on the image with left mouse button pressed so as to apply brush strokes.

Step 8 : Notice the Strokes being made on the selected portion of the image.

Step 9 : Press Ctrl+D to deselect the selection.

2. Adobe Photoshop provides various types of shape tools for drawing both filled as well as unfilled shapes, including rectangles, ellipses, polygons and custom shapes.

3. The color Replacement Tool in Photoshop enables us to replace the color of an image with the color of the fore ground.

4. This feature of Photoshop stores information related to colour elements of image. If the image has many layers then every layer has its own channels set. If the image is in RGB mode, then it has three channels, one for each Red, Green and Blue. If the image is CMYK then there will be four channels C-Cyan, M-Magenta, Y-Yellow, K-Black.

5. Follow the steps given below to add text:

Step 1 : Select the Horizontal Type Tool from Toolbox.
Step 2 : Click on the portion of image where text needs to be added.
Step 3 : Select Font, Size and Alignment from Text Palette.
Step 4 : Now, type the text that will come on image.

6. There are two types of viewing tools : Hand Tool and Zoom tool. Zoom tool is shaped like an old fashioned magnifying glass, and hand Tool is shaped like a hand.

Zoom Tool : This tool lets you zoom in by clicking the tool on the canvas to see a magnified view of your picture or zoom out by pressing Alt, while clicking the image.

Hand Tool : When you zoom in, the picture is usually too large to see it all at once. The Hand tool moves it within the window.

7. Layers are the transparent sheets that can hold objects and are stacked on top of each other. When we have number of objects, it is always better to distribute the objects in different layers as it makes the work process much easier. This is the powerful feature of Photoshop. We can draw and edit objects on different layers. The order of these layers can be changed without affecting the objects on other layers.

8. The Eraser Tool is called an anti-brush tool. True to its name it Works like an eraser and erases the area on which we click and drag the eraser tool. There are three options under this tool. Let us learn about them.

Eraser Tool : The Eraser tool erases text and images based on the layer. If the user is on the next layer, then any text that the tool is dragged over will be erased. The size and style of the eraser can be selected in the Options bar.

The Background Eraser Tool : The Background Eraser tool deletes any part of the image that is on the edge of an object. This tool is often used to extract objects from the background.

Magic Eraser Tool : The Magic Eraser tool deletes areas based on similar coloured pixels.

9. The Healing Brush Tool allows us to repair imperfections such as scratches, blemishes and marks in an image. While working with this tool, we pick up sample pixels (pixels to be used for repairing) from the adjoining

portion of an image. The Healing Brush Tool matches the texture, lighting, transparency and shading of the sampled pixels and applies them to the pixels that are being repaired.

10. The Gradient Tool allows us to fill an area with a range of colours in a specified pattern. It creates a blend between two or more colours. Gradients of colour can be filled with linear, radial, angle, reflected and diamond gradient.

Chapter 4

A. Fill in the blanks with the help of the words given in the box.

1. Consumer, Organization, Society 2. Technical, Non-Technical 3. **B2C** 4. **C2C** 5. **EDI**

B. Write true (T) or false (F).

1. T 2. T 3. T 4. F 5. T 6.T

C. Tick (✓) the right answer.

1.(iv) 2.(ii) 3.(iii) 4.(iv) 5.(iii)

D. Answer the following questions.

1. E-Commerce or Electronics Commerce is a methodology of modern business which addresses the need of business organizations, vendors and customers to reduce cost and improve the quality of goods and services while increasing the speed of delivery. E-Commerce refers to paperless exchange of business information using following ways:

1. Electronic Data Interchange (EDI)
2. Electronic Bulletin Boards
3. Other Network-based technologies
4. Electronic Mail (e-mail)
5. Electronic Fund Transfer (EFT)

2. E-commerce provides following features:

1. Non-Cash Payment: E-Commerce enables use of credit cards, debit cards, smart cards, electronic fund transfer via the bank's website and other modes of electronic payment.

2. 24×7 Service availability: E-Commerce automates business of enterprises and services provided by them to customers are available anytime, anywhere. Here 24×7 refers to 24 hours of each seven days of a week.

3. Advertising/ Marketing: E-Commerce increases the reach of advertising of products and services of businesses. It helps in better marketing management
of products/ services.

4. Improved Sales: Using E-Commerce, orders for the products can be generated anytime, anywhere without any human intervention. By this way, dependencies to buy a product reduce at large and sales increase.

5. Support: E-Commerce provides various ways to provide pre-sales and post-sales assistance to provide better services to customers.

6. Inventory Management: Using E-Commerce, inventory management of products becomes automated. Reports get generated instantly when required. Product inventory management becomes very efficient and easy to maintain.

7. Communication improvement: E-Commerce provides ways for faster, efficient, reliable communication with customers and partners.

3. E-COMMERCE ADVANTAGES

E-Commerce advantages can be broadly classified in three major categories:

1. **Advantages to Organizations**

- Using E-Commerce, organization can expand their market to national and international markets with minimum capital investments. An Organization can easily locate more customers, best suppliers and suitable business partners across the globe.
- E-Commerce helps organization to reduce the cost to create process, distribute, retrieve and manage the paper based information by digitizing the information.
- E-Commerce improves the brand image of the company.

- E-Commerce helps organizations to provide better customer services.
- E-Commerce helps to simplify the business processes and make them faster and efficient.
- E-Commerce reduces paperwork a lot.
- E-Commerce increased the productivity of the organization. It supports “pull” type supply management. In “pull” type supply management, a business process starts when a request comes from a customer and it uses just-in-time manufacturing.

2. Advantages to Customers

- 24 × 7 support. Customers can do transactions for the product or enquiry about any product services provided by a company any time, anywhere from any location. Here 24×7 refers to 24 hours of each seven days of a week.
- E-Commerce applications provide users with more options and quicker delivery of products.
- E-Commerce application provides user more option to compare and select the cheaper and better option.
- A customer can put review comments about a product and can see what others are buying or see the review comments of other customers before making a final buy.
- E-Commerce provides the option of virtual auctions.
- Readily available information. A customer can see the relevant detailed information within seconds rather than waiting for days or weeks.
- E-Commerce increases competition among the organizations and as result organizations provides substantial discounts to customers.

3. Advantages to Society

- Customers need not to travel to shop a product thus less traffic on road and low air pollution.
- E-Commerce helps reducing cost of products so less affluent people can also afford the products.

- E-Commerce has enabled access to services and products to rural areas as well which are otherwise not available to them.
- E-Commerce helps government to deliver public services like health care, education, social services at reduced cost and in an improved way.

E-COMMERCE DISADVANTAGES

E-Commerce disadvantages can be broadly classified in two major categories:

1. **Technical Disadvantages**

- There can be lack of system security, reliability and standards owing to poor implementation of e-Commerce.
- Software development industry is still evolving and keeps changing rapidly.
- In many countries, network bandwidth might cause an issue as there is insufficient telecommunication bandwidth available.
- Special types of web server or other software might be required by the vendor setting the ecommerce environment apart from the network servers.
- Sometimes, it becomes difficult to integrate E-Commerce software or website with the existing applications or databases.
- There could be software/ hardware compatibility issue as some E-Commerce software may be incompatible with some operating system or any other component.

2. **Non-Technical Disadvantages**

- **Initial cost:** The cost of creating/ building E-Commerce application in-house may be very high. There could be a delay in launching the E-Commerce application due to mistakes, lack of experience.
- **User resistance:** Users may not trust the site being an unknown faceless seller. Such mistrust makes it difficult to make users switch from physical stores to online/ virtual stores.
- **Security/ Privacy:** Difficult to ensure security or privacy on online transactions.

- Lack of touch or feel of products during online shopping.
- E-Commerce applications are still evolving and changing rapidly.
- Internet access is still not cheaper and is inconvenient to use for many potential customers like one living in remote villages.

4. E-Commerce or Electronics Commerce Business models can generally be categorized in following categories.

Business – to – Business (B2B): Website following B2B business model sells its product to an intermediate buyer who then sells the product to the final customer. As an example, a wholesaler places an order from a company's website and after receiving the consignment, sells the end product to final customer who comes to buy the product at the wholesaler's retail outlet.

Business – to – Consumer (B2C): Website following B2C business model sells its product directly to a customer. A customer can view products shown on the website of a business organization. The customer can choose a product and order the same. Website will send a notification to the business organization via email and organization will dispatch the product/ goods to the customer.

Consumer – to – Consumer (C2C): Website following C2C business model helps consumer to sell their assets like residential properly cars, motorcycles etc. or rent a room by publishing their information on the website. Website may or may not charge the consumer for its services. Another consumer may opt to buy the product of the first customer by viewing the post/ advertisement on the website.

Consumer – to – Business (C2B): In this model, a consumer approaches website showing multiple business organizations for a particular service. Consumer places an estimate of amount he/she wants to spend for a particular service. For example, comparison of interest rates of personal loan/ car loan provided by various banks via websites. Business organization who fulfils the consumer's requirement within specified budget approaches the customer and provides its services.

Business – to – Government (B2G): B2G model is a variant of B2B model. Such websites are used by the government to trade and exchange

information with various business organizations. Such websites are accredited by the government and provide a medium to businesses to submit application forms to the government.

Government – to – Business (G2B): Government uses a G2B model website to approach business organizations. Such websites support auctions, tenders and application submission functionalities.

Government – to – Citizen (G2C): Government uses G2C model website to approach citizen in general. Such websites support auctions of vehicles, machinery or any other material. Such website also provides services like registration for birth, marriage or death certificates. Main objectives of G2C website are to reduce the average time for fulfilling people's requests for various government services.

5. Some of the modes of electronic payments are following:

Credit Card: Payment using credit card is one of the most common modes of electronic payment. Credit card is a small plastic card with a unique number attached to an account. It also has a magnetic strip embedded in it which is used to read credit cards via card readers. When a customer purchases a product via credit card, the credit card issuer bank pays on behalf of the customer and the customer has a certain time period after which he/ she can pay the credit card bill. It is usually a credit card monthly payment cycle.

Debit Card: Debit Card, like credit card is a small plastic card with a unique number mapped with the bank account number. It is required to have a bank account before getting a debit card from the bank. The major difference between debit card and credit card is that in case of payment through debit card, the amount gets deducted from the card's bank account immediately and there should be sufficient balance in the bank account for the transaction to get completed. Whereas in the case of credit cards there is no such compulsion. Debit cards free customers to carry cash, cheques and even merchants accept debit cards more readily. Having a restriction on the amount being in the bank account also helps the customer to keep a check on his/ her spendings.

Smart Card: Smart card is again similar to credit card and debit card in appearance but it has a small microprocessor chip embedded in it. It has the capacity to store customer work related/personal information. Smart cards are also used to store money which is reduced as per usage. Smart cards can be accessed only using a customer's PIN. Smart cards are secure as they store information in encrypted format and are less expensive/ provide faster processing. Mondex and Visa cash cards are examples of smart cards.

E-Money: E-money transactions refers to a situation where payment is done over the network and the amount gets transferred from one financial body to another financial body without any involvement of a middleman. E-money transactions are faster, convenient and save a lot of time. Online payments done via credit card, debit card or smart card are examples of e-money transactions. Another popular example is e-cash. In case of e-cash, both customer and merchant both have to sign up with the bank or company issuing e-cash.

Electronic Fund Transfer: It is a very popular electronic payment method to transfer money from one bank account to another bank account. Accounts can be in a same or different bank. Fund transfer can be done using an ATM (Automated Teller Machine) or using a computer. Now-a-day, internet based EFT is getting popular. In this case, the customer uses a website provided by the bank. Customer logins to the bank's website and registers another bank account. He/She then places a request to transfer a certain amount to that account. Customer's bank transfers amount to other account if it is in same bank otherwise transfer request is forwarded to ACH (Automated Clearing House) to transfer amount to other account and amount is deducted from customer's account. Once the amount is transferred to another account, the customer is notified of the fund transfer by the bank.

Chapter 5

A. Fill in the blanks with the help of the words given in the box.

1. **Resident viruses** 2. **Program viruses** 3. Macro language 4. **Malware** 5. **Antivirus** 6. Cracking 7. Cyber bullying 8. **Spam.**

B. Write true (T) or false (F).

1. T 2. F 3. T 4. T 5. F 6. T 7.T

C. Tick (✓) the right answer.

1.((iv)) 2.(iii) 3.(iv) 4.(i) 5.(iv)

D. Answer the following questions.

1. The following steps should be taken to prevent cyber bullying/stalking.

1. At first, don't respond to any sort of unpleasant messages or pictures on your e-mail or throughout the social media site.

2. If the problem persists, do not feel ashamed or scared in case you are bullied by someone. Report the incident and inform your elders about it. If you are facing any sort of threat, save a screenshot or picture of the message/image and seek help from a trusted elder.

3. With the help of an adult, you can even report the matter to the cyber cell such as acts are punishable and are considered as serious offenses.

4. Do not be a Bystander! Be an Up stander! In case anyone tries to bully your friends, or anyone else and you get to know about it, do not stay quiet about it or ignore it, rather report such incidents to your teachers and parents.

5. Ensure that you do not bully others. Maintain your dignity and follow the same decorum of interacting with others online as you interact with them in real life.

2. The difference between a White Hat Hacker and a Black Hat Hacker lies in their intent and the way they use their hacking skills.

White Hat Hacker (Ethical Hacker)

- Works legally and with permission to improve security.

- Helps organizations by identifying and fixing vulnerabilities in computer systems and networks.
- Often employed by companies, government agencies, and cybersecurity firms.
- Their goal is to protect data and prevent cyberattacks.
- Examples: Cybersecurity professionals, penetration testers.

Black Hat Hacker (Cracker or Cybercriminal)

- Works illegally without permission, often for personal gain.
- Engages in activities like hacking into systems, stealing data, spreading malware, or causing damage.
- Their goal is often to steal information, disrupt services, or exploit systems for financial or malicious purposes.
- Examples: Hackers involved in identity theft, ransomware attacks, or data breaches.

3. **Phishing:** Phishing is a form of fraud in which the attacker tries to steal or take out information such as login credentials or account information. An attacker pretends to be a reputable entity or a person in the emails and sends as email to get personal and confidential information such as credit card number, password, bank details etc. In case of a phishing attack, a victim receives a message that appears to have been sent by a known contact or an organization. An attachment or link in the message may install malware on the user's device or direct them to a malicious website set up to trick them into divulging personal and financial information, such as passwords, account IDs or credit card details.

Spamming: The unwanted emails that come in bulk from strange and unknown sources are called spam. Spamming is the process of sending the same copies of emails to a large number of people worldwide. Usually spams are sent with the purpose of advertising by commercial agencies. But it is considered a threat as most spams are used to distribute viruses, worms, spyware etc., and even organize targeted phishing attacks.

4. As the name implies, software piracy refers to unauthorized copying of some purchased software. Most software programs purchased are licensed for use by just one user or at just one computer system. Software piracy

occurs when copies of such licensed software are made and freely distributed.

5. An antivirus program is a software program that is used to identify and remove computer viruses. There are many types of harmful computer software programs that are collectively referred to as malware. The first antivirus program was designed specially to combat computer viruses. Most modern antivirus softwares, however, can protect your computer against a wide range of malware. An antivirus program uses several methods to identify a virus. Signature-based detection is a common method. In this method, when the antivirus program scans a file for viruses, it checks the contents of a file against a dictionary of known viruses. If a virus signature is found in the file, the antivirus program removes the virus. The program usually performs one or more of the following actions: quarantine, repair, or delete. Quarantine isolates a file and makes it inaccessible. It is usually the first action an antivirus software will take if it finds a malicious file. Encrypting the file is a good quarantine technique because it renders the file useless. To make the antivirus effective, you should keep updating your computer with the latest version of the antivirus software so that it can identify any new virus.

Chapter 6

A. Fill in the blanks with the help of the words given in the box.

1. **Query** 2. Design 3. Results 4. **Table** 5. **Report**

B. Write true (T) or false (F).

1. T 2. T 3. F 4. F 5. T

C. Match the following:

1. Design View	**(ii)** Manually create a selected query
2. Run option	**(iv)** Runs a query
3. Form	**(i)** Enter and edit data
4. Report	**(iii)** Summarizes data

D. Tick (✓) the right answer.

1. (ii) 2. (i) 3. (ii) 4. (iv)

E. Answer the following questions.

1. Design view can be used manually to create a selected query. When you use Design View, you have more control over the details of the query design.

To begin creating a query, follow the given steps:

1. Click on the Create tab.
2. Click on the Query Design option to open the Show Table dialog box.
3. Click on a table to use in the query.
4. Click on Add button to add the table to your query. A box will appear in the Select Query window, displaying the fields for the table you selected.
5. Repeat steps 3 and 4 for each table you want to use it in your query.
6. Click on the Close button to hide the Show Table dialog box.
7. Double-click with the left mouse button on a field to include in the query.
8. Repeat step 7 for each field to include in the query.

To run a query, follow the given steps:

1. Click on the Run option in the Results group from the Design tab to run the query.
2. In the Datasheet view the names of the field included in the query is displayed.

2. A form is a database object that is used to create a user-friendly interface for entering, viewing and editing data in a database table or query. Forms allow users to interact with the database by providing a structured and visually appealing way to input and retrieve information.

3. To save a query, follow the given steps:

1. Press Ctrl + S from the keyboard. The Save As dialog box will appear.
2. Type a name for your query.
3. Click on the OK button. The query will be saved.

4. A report is used to organize and summarize data for online viewing or for printing. Reports can be created at any time, and it is prepared using the current updated data in the database. Reports enable the user to analyze the result in a printed format.

5. You can use the Report tool, to create a simple report. The report displays all the fields from the underlying table.

To create a simple report using Report tool, follow the given steps:

1. Click on the table or query on which the report needs to be based on the Navigation pane.
2. Click on the Create tab.
3. Click on Report option present in Reports group.
4. MS Access builds the report and displays it in the Layout View.

Once you finish viewing the report, you can save it and then close both the report and the underlying table or query that you used as a record source.

Chapter 7

A. Fill in the blanks with the help of the words given in the box.

1. Workspace 2. excel 3. Presentations 4. Email

B. Write true (T) or false (F).

1. T 2. T 3. F 4. T

C. Tick (✓) the right answer.

1. (iv) 2. (iii) 3. (ii) 4. (ii)

D. Answer the following questions.

1. Google Drive is a cloud-based storage solution developed by Google, offering users the ability to store files, documents, photos and videos securely online. It also provides seamless collaboration features, making it a versatile tool for individuals and businesses alike.

Benefits of Google Drive:

1. File Storage: Google Drives offers 15 GB of free storage for each Google account. You can store documents, images, videos and other file types.

2. Accessibility: Access your files from any device with an internet connection, whether it's a computer, tablet or smartphone.

3. File Sharing: Share files and folders with others using shareable links or email invitations. You can grant various levels of access, including view-only, commenting or editing.

4. Collaboration: Collaborate in real-time on Google Docs, Google sheets and Google Slides. Multiple users can work on the same document simultaneously.
5. Offline Access: Enable Offline mode to access and edit files without an Internet connection. Changes will sync once you're back online.
6. Version History: Google Drive keeps track of changes made to documents, allowing you to view and restore previous versions.
7. Integration: Seamlessly integrate with other Google Workspace apps like Gmail and Google Calendar for enhanced productivity.
2. Google Maps, a sophisticated navigation tool, offers precise information about geographical areas. It was initially launched on February 8, 2005, and became available on the Google Play Store in December 2012.
To access Google Maps from your computer, follow these steps:
Step 1: Click on the Google Apps option.
Step 2: Select the Maps icon, and Google Maps will open in a new tab or Window.
Step 3: By default, the map is displayed in Map View. However, you can change the view by clicking on the Menu button and selecting your preferred view. Google Maps offers three types of maps:

- Roadmap: Displays a street view of the selected area (default).
- Satellite: Provides a satellite view of the chosen location.
- Terrain: Shows the terrain and vegetation of the area.

Step 4: Choose Satellite view to open the map in a satellite view.
3. YouTube is a popular video-sharing platform that allows users to upload, view and share videos with a global audience. YouTube offers a wide range of features that make it a versatile platform for both creators and viewers. Here's an overview of some key features.
1. Video Viewing: You can watch a vast collection of videos on almost any topic.
2. Subscriptions: You can subscribe to channels to stay updated with their latest content.
3. Search: YouTube has a powerful search engine to help you find specific videos or channels.

4. Comment and Likes: interact with videos by leaving comments and liking or disliking them.
5. Playlists: Create and organize playlists to create your favourite videos.
6. Live Streaming: Many users are creators who use YouTube for live streaming events.

4. Google sheets offers the following features:

1. Google Sheets is freely accessible worldwide via the Internet, allowing multiple users to collaborate on the same spreadsheet simultaneously.
2. It's accessible on various devices, including iOS and Android.
3. It provides nearly all the spreadsheet functions found in Excel.
4. Data and information can be effortlessly imported from other Google services or directly from the web.
5. Version history allows you to track who edited a file and the changes made.
6. Google sheets can open and convert Excel files and vice versa.
7. It supports offline work by installing and enabling the Google docs Offline extension.

Chapter 8

A. Fill in the blanks with the help of the words given in the box.

1. Augmented Reality 2. RPA 3. Shakey 4. virtual 5. Rapid Prototyping

B. Write true (T) or false (F).

1. T 2. T 3. F 4. F

C. Tick (✓) the right answer.

1.(ii) 2.(ii) 3.(i) 4.(i) 5.(ii)

D. Answer the following questions.

1. AI is the branch of computer science that aims at creating expert and intelligent computer systems that stimulate certain human qualities such as learning, reasoning, communicating, seeing, hearing and sensation. So, AI is used to create intelligent machines that help us. AI is a part of almost everything we use today such as smartphones, cars and banks.

2. This type of software comprises a camera and software which together identify repetitive patterns and establish connections between the patterns stored in the database and the perceived patterns. Facial recognition software, video surveillance cameras, fingerprint identification and automatic voice recognition software are some examples of pattern recognition software.
3. It is used to create models to quickly test a new product before mass production. 3D Printing can be termed as a RP method.
4. Most of the jobs in any industry consist of the tasks that are repetitive in nature and can be automated. RPA or Robotic Process Automation allows organizations to automate tasks which human beings were doing across any applications and systems. The purpose of RPA is to transfer the execution of the process from humans to robots. Robotic automation uses the existing IT structure without using any complex system integrations.
5. Intelligent Apps are software written for mobile devices based on artificial intelligence and machine learning technology, aimed at making everyday tasks are easier. This involves tasks like organizing and prioritizing emails, scheduling meetings, logging interactions, content etc. Some familiar examples of I-Apps are Chatbots and virtual assistants.
6. 3D Printing or 3-dimensional Printing is a technology which was first developed at MIT (Massachusetts Institute of Technology) in the 1980s. It is the process of making a physical object from a threedimensional physical model. In this technology, we use the 3D digital data on the computer to build 3D objects by adding layers of material which could be polymers, metals, concrete or even plant and human tissue. 3D Printing helps to bridge the gap between ideas and images on a page or screen and the creation of those ideas/images in the physical 3-dimensional world.

Chapter 9

A. Fill in the blanks with the help of the words given in the box.

1. Hyperlink, Link 2. <frameset> 3. <img> 4. Frames 5. Pixels 6. Marquee

B. Write true (T) or false (F).

1. F 2. F 3. T 4. T 5. F

C. Tick (✓) the right answer.

1.(i) 2.(iii) 3.(ii) 4.(i)

D. Match the following:

1. Pixels **(iii)** Used to set width and height of image

2. Marquee **(v)** Scrolling piece of text displayed either horizontally across or vertically down your webpage.

3. Vspace **(iv)** Specifies vertical space around the marquee

4. <frameset> **(ii)** Defines how to divide the window into frames

5. Links **(i)** Allow users to move seamlessly from one page to another

E. Answer the following questions.

1. Frames allow the user to view multiple documents within a single Web page. HTML frames are used to divide your browser window into multiple sections where each section can load a separate HTML document. A collection of frames in the browser window is known as a frameset. The window is divided into frames in a similar way the tables are organized: into rows and columns.

Creating Frames

To use frames on a page, we use <frameset> tag instead of <body> tag. The <frameset> tag defines how to divide the window into frames. The rows attribute of <frameset> tag defines horizontal frames and column attribute defines vertical frames. Each frame is indicated by <frame> tag and it defines which HTML document shall open into the frame.

The following is the example to create three horizontal frames−

```
<html>
<head>
<title>HTML Frames</title>
</head>
```

```
<frameset rows = "10%,80%,10%">
<frame name = "top" src = "/html/top_frame.htm" />
<frame name = "main" src = "/html/main_frame.htm" />
<frame name = "bottom" src = "/html/bottom_frame.htm" />
<noframes>
<body>Your browser does not support frames.</body>
</noframes>
</frameset>
</html>
```

2. We can adjust the size of an image in HTML using the width and height attributes within the <img> tag. The width and height attributes are used to specify the width and height of an image. The values of these attributes are interpreted in pixels by default.

Syntax:

```
<img src="url" alt="some_text" width="width" height="height">
```

Code Example

```
<html >
<head>
<title>Inserting Image in HTML Documents</title>
</head>
<body>
< i m g s rc = " /exa m p l e s / i m a ge s / k i te s . j p g "
alt="Flying Kites" width="300" height="300">
<img src="/examples/images/sky.jpg" alt="Cloudy
Sky" width="250" height="150">
<img src="/examples/images/balloons.jpg"
alt="Hot Air Balloons" width="200" height
="200">
</body>
</html>
```

3. An image can be hyperlinked.

Example

```
<html >
<head>
<title>Creating Links in HTML</title>
</head>
<body>
<p><a href="https://www.google.com/" target="_blank">Google Search</a></p>
<p>
<a href="/examples/images/kit.jpg">
<img src="/examples/images/kit-thumb.jpg" alt="kit">
</a>
</p>
<p><a href="https://www.indiatoday.in/">India Today</a></p>
</body>
</html>
```

4. An HTML marquee is a scrolling piece of text displayed either horizontally across or vertically down your webpage depending on the settings. This is created by using the HTML <marquees> tag.

Code Example

```
<html>
<head>
<title>HTML Marquee Tag</title>
</head>
<body>
<marquee>This is basic example of marquee</marquee>
</body>
</html>
```

Chapter 10

A. Fill in the blanks with the help of the words given in the box.

1. Jump 2. Characters 3. Triple-quoted 4. Arguments

B. Write true (T) or false (F).

1. T 2. F 3. T 4. F 5. T

C. Tick (✓) the right answer.

1.(ii) 2.(iii) 3.(ii) 4.(iv) 5.(iii)

D. Match the following:

1. Functions **(iii)** User-defined logic.

2. Jump **(v)** Used to go to a specific point in the program.

3. For **(i)** Used to iterate over some statements.

4. Continue **(ii)** Used to quit the current iteration.

5. Break **(iv)** Immediately terminates a loop.

E. Answer the following questions.

1. The **for** loop statement in Python is used to execute a block of statements or code several times until the given condition becomes false. We use for loop when we know the number of times to iterate.

Syntax:

for iterating_var in sequence:
statement(s)

The **while** loop statement in Python programming language repeatedly executes a target statement as long as a given condition is true.

Syntax:

The syntax of a while loop in Python programming language is–

while expression:
statement(s)

Here, the key point of the while loop is that the loop might not ever run. When the condition is tested and the result is false, the loop body will be skipped and the first statement after the while loop will be executed.

2. Functions have many advantages in Python. Some of them are as follows :

1. Using functions, we can avoid rewriting the same logic/code again and again in a program.
2. Function reduces the execution time period of your program.
3. We can call Python functions multiple times in a program and anywhere in a program.
4. We can track a large Python program easily when it is divided into multiple functions.
5. Reusability is the main achievement of Python functions.

3. Components of Python function are as follows:

Function Name: A function is identified by its name, which follows naming conventions in Python.

Parameters and Arguments: Parameters are placeholders in a function that accept input values. Arguments are the actual values passed to parameters when the function is called.

Return Values: Functions can return data using the return statements. Function can have no return value (return None by default).

Function Body: The function body contains the code that performs a specific task. It is identified and defines the scope of the function.

Function Declaration: Functions are define using the def keyword, followed by the function name and parameters.

4. Difference Between Built-in Functions and User-defined Functions in Python are as follows:

Feature	Built-in Functions	User-defined Functions
Definition	Predefined functions available in Python.	Functions created by the user to perform specific tasks.
Examples	print(), len(), sum(), max(), min(), range()	Custom functions defined using def keyword, e.g., def add(a, b): return a + b
Usage	Can be used directly without defining them.	Must be defined before calling.

Customization	Cannot be modified.	Can be customized as per user requirements.
Performance	Optimized and efficient.	Performance depends on how well they are written.

5.

6. Strings are sequences of characters and are created using single and double quotes. Examples of string creation, Including single-line and multiline strings.
Multiline strings allow you to work with text that spans multiple lines. They are created using triple quotes (''' or """) and are often used for doc strings and long text.

Chapter 11

A. Fill in the blanks with the help of the words given in the box.

1. Processing 2. Data 3. visual 4. Telechir

B. Write true (T) or false (F).

1. T 2. F 3. T 4. F

C. Tick (✓) the right answer.

1.(ii) 2.(ii) 3.(ii) 4.(iii)

D. Answer the following questions.

1. NLP has many real-world applications, from virtual assistants like Siri and Alexa to language translation tools and sentiment analysis in social media.

2. CV algorithms use digital images or video feeds as input, breaking them down into pixels and analyzing them. These algorithms can identify objects, people, places and even emotions on faces. With deep learning techniques, CV systems can continuously learn and improve their visual recognition capabilities.

3. Big Data refers to the vast and complex sets of data that are too massive to be processed and analyzed by traditional data processing tools. It's not just about the volume of data; it also involves the variety, velocity and veracity of the information. Big Data can come from various sources, Including social media, sensors and online transactions.

4. Artificial Intelligence offers numerous advantages that impact various aspects of our lives and industries. Some key advantages include:

1. **Automation:** AI can automate repetitive tasks, saving time and reducing human error.
2. **Data Analysis:** AI can process vast amounts of data quickly, uncovering insights that human might miss.
3. **Personalization:** AI can provide personalized recommendations in areas like entertainment and shopping.
4. **Healthcare:** AI aids in disease diagnosis, drug discovery and personalized treatment plans.
5. **Accessibility:** AI-powered devices assist individuals with disabilities, Improving their quality of life.

5. A robot is a type of automated machine that can execute specific tasks with little or no human intervention and with speed and precision. The field of robotics, which deals with robot design, engineering and operation has advanced remarkably in the last 50 years. An intelligent robot is characterized by its ability to continually learn and adapt to new situations through the incorporation of advanced artificial intelligence systems. Unlike conventional robots, these devices can make autonomous decisions based on information received from their environment.