

Code 632

Certificate in DIGITAL MITRA

(Job Role: Digital Mitra)

NSQF LEVEL – 3

(Earlier – Data Entry Operations)

PRACTICAL MANUAL



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Practical 1

IDENTIFY AI TOOLS FOR DATA ENTRY

To explore and identify different AI (Artificial Intelligence)-based tools used for automating data entry tasks.

OBJECTIVES

After completing this practical, you will be able:

- To understand the need for AI in data entry.
- To explore tools like Google Sheets AI add-ons, Microsoft Power Automate, UiPath, Nanonets, ChatGPT etc.
- To compare traditional vs AI-powered data entry.

REQUIREMENTS

- Computer with internet connection.
- Access to Google Workspace or Microsoft Office 365.
- Free trial of AI data entry tools (UiPath, Nanonets).

PROCEDURE

1. Set Up Google Sheets

- Open Google Sheets and create a new sheet.
- Add column headers (e.g., Name, Email, Product ID, Amount, Status).

2. Enable Google Sheets Add-Ons (AI Tools)

- Go to Extensions → Add-ons → Get add-ons.
- Popular AI add-ons:



Notes

- o Nanonets → AI OCR for extracting data from invoices/forms directly into Sheets.
- o SheetAI → Generate text, formulas, and auto-complete entries using AI.

3. Automate Data Entry with AI

- Form-Based Entry
 - o Go to Extensions → Google Forms → Create Form.
 - o Link the form to your sheet → Data entered via form directly goes into Sheets.
 - o Add AI tools like form validation (to auto-check emails, phone numbers, etc.).
- AI-Powered Data Extraction (OCR)
 - o Use Nanonets add-on: Upload invoices, receipts, ID cards.
 - o AI extracts values (like Name, Amount, Date) → auto-fills in Google Sheets.
- Auto-Fill & Suggestions
 - o Enable Data → Smart Fill in Google Sheets.
 - o Google's AI predicts and fills repeating patterns (like email domains, names).

4. Automate Workflows

- Connect Google Sheets with tools like Zapier / Make / UiPath.
- Example automation:
 - o New Google Form entry → AI validates data → Sends email → Updates CRM.

5. Data Cleaning & Validation with AI

- Use AI formulas or add-ons to:
 - o Remove duplicates
 - o Auto-correct spelling
 - o Standardize formats (phone numbers, addresses)
 - o Detect anomalies (wrong values, missing fields)



OBSERVATION TABLE

Tool Name	Functionality	Ease of Use	Accuracy	Time Taken
Google Sheets AI	Cleans and validates data	Easy	High	Low
UiPath	Automates invoice entry	Medium	Very High	Very Low
Nanonets	OCR for scanning handwritten docs	Medium	High	Low

Notes

LEARNER’S OBSERVATIONS

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Instructor’s Signature



Practical 2

DESIGN PLANS TO COLLATE SPECIFIC INFORMATION/DATA FROM CUSTOMER/CLIENT

To design structured methods for collecting data from customers/clients for entry into business systems.

OBJECTIVES

After completing this practical, you will be able:

- To understand the importance of structured data collection.
- To design customer data collection forms using Google Forms/Microsoft Forms.
- To validate collected data for accuracy.

REQUIREMENTS

- Computer with internet.
- Google Workspace or Microsoft Office.

PROCEDURE

1. Open Google Forms → Create a new form titled **“Customer Information Form”**.
2. Add the following fields:
 - o Full Name
 - o Age/Date of Birth
 - o Email & Phone Number
 - o Address
 - o Service Request Type



3. Enable **data validation** (e.g., phone number must be 10 digits).
4. Share the form and collect 5–10 responses.
5. Export responses into a **Google Sheet**.
6. Use **AI data cleaning tools** to remove duplicates or errors.

SAMPLE FORM FIELDS

Field Name	Data Type	Validation Rule
Customer Name	Text	Not empty
Phone Number	Number	Exactly 10 digits
Email Address	Text	Must contain “@”
Service Required	Dropdown	Predefined choices

OBSERVATION TABLE

Response No.	Name	Phone Number	Email ID	Errors Found
1	Rahul Verma	9876543210	rahul@gmail.com	None
2	Sunita	912345678	sunita@xyz	Invalid Data

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Practical 3

EXAMINE STANDARD POLICIES TO RECORD AND PERFORM A SERVICE REQUEST

To study and examine standard operating procedures (SOPs) for recording and performing service requests.

OBJECTIVES

After completing this practical, you will be able:

- To understand service request management.
- To examine ITIL (Information Technology Infrastructure Library) policies.
- To document a sample service request process.

REQUIREMENTS

- Computer with internet
- Knowledge of ticketing systems

PROCEDURE

1. Open a free demo of ticketing system like Freshdesk/Jira Service Desk.
2. Raise a dummy service request (e.g., “Email not working”).
3. Fill required details (Name, Email, Issue, Priority).
4. Observe how the system generates a Ticket ID.
5. Track status (Open → Assigned → In Progress → Resolved → Closed).
6. Document standard policies for response time (SLA).



Notes

OBSERVATION TABLE

Request ID	Issue Description	Priority	Status	Assigned To	Time Taken
SR-001	Email not working	High	Resolved	IT Team	2 Hours
SR-002	Printer not working	Medium	In Progress	Support	-

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Practical 4

OPEN MS WORD 2019, CREATE A NEW BLANK DOCUMENT USING MS WORD 2019

Open MS Word 2019, create a new blank document using MS Word 2019, write a few lines on the topic **Project Tiger** having a suitable title, save it with the name **Project Tiger**.

OBJECTIVES

After completing this practical, you will be able:

- to learn how to open Microsoft Word 2019
- create a new document
- save it for future use

REQUIREMENTS

- **Hardware:** A Computer System having 1.6 GHz or faster or 2-core processor, RAM 2 GB (32-bit) / 4 GB (64-bit), storage of minimum 4 GB free disk space
- **Software:** Microsoft Office 2019, Windows Operating System (Windows 10 or later version)
- **Internet Connection:** Required for Software updates

PROCEDURE

A. To Open MS Word 2019

1. Click on the **Start** button.
2. Type **Word** in the search box.
3. Click on **Microsoft Word 2019** from the list.



Notes

B. To Create a New Document

1. When Word opens, click on **Blank Document**.
2. A new blank page appears where you can start typing your text.

C. To Save the Document

1. Click on **File** tab → **Save As**.
2. Choose the desired **location** (e.g., This PC → Documents).
3. Enter a **file name** (e.g., Project Tiger).
4. Select **Save as type** as *Word Document* (.docx)*.
5. Click on the **Save** button.

(Shortcut key: Press **Ctrl + S** to save quickly.)

LEARNER'S OBSERVATIONS

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Practical 5

TEXT FORMATTING

Open an Existing Document (like previously created document **Project Tiger** in MS Word 2019 and Format Heading Text in Bold, Italic, Underline Style; Apply Alignment (Heading – Center, Body text – Left); Set Font Size (Heading – 16, Body text– 12); and Colour (Heading – Red, Body text – Green).

OBJECTIVES

After completing this practical, you will be able:

- To learn how to open an existing document in Microsoft Word 2019
- To apply different text formatting options such as bold, italic, underline, font size, colour, styles and alignment in MS Word 2019

REQUIREMENTS

- **Hardware:** A Computer System having 1.6 GHz or faster or 2-core processor, RAM 2 GB (32-bit) / 4 GB (64-bit), storage of minimum 4 GB free disk space
- **Software:** Microsoft Office 2019, Windows Operating System (Windows 10 or later version)
- **Internet Connection:** Required for Software updates

PROCEDURE

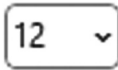
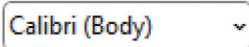
A. To Open an Existing Document

1. Click on **File** → **Open**.
2. Browse to the folder where your file is saved.
3. Select the file and click **Open**.
4. The desired document appears on the desktop, where you can apply the various formatting styles.



Notes

B. Format the text:

1. **Bold:** Select the text → **Home** Tab→**Font** group→click **B** or press **Ctrl + B**. 
2. **Italic:** Select the text → **Home** Tab→**Font** group→click **I** or press **Ctrl + I**.
3. **Underline:**Select the text → **Home** Tab → **Font** group → click **U** or press **Ctrl + U**.
4. **Font Size:** Select the text → **Home** Tab→**Font** group→choose desired size from the **Font Size** drop-down. 
5. **Font Colour:** Select text → **Home** Tab→**Font** group→click **Font Color** icon → choose desired colour. 
6. **Font Style:** Select text → **Home** Tab→**Font** group → choose a different font from the Font list (e.g., Calibri, Times New Roman). 
7. **Alignment:**
 - **Left Align:** Select the text → **Home** Tab → **Paragraph** group → Select **Align Left** OR press **Ctrl + L** 
 - **Center Align:** Select the text → **Home** Tab → **Paragraph** group → Select **Center** or press **Ctrl + E**
 - **Right Align:** Select the text → **Home** Tab→**Paragraph** group → Select **Align Right** or press **Ctrl + R**.
 - **Justify:** Select the text → **Home** Tab → **Paragraph** group → Select **Justify** or press **Ctrl + J**

Note: Repeat the formatting steps separately for the heading and body text.

LEARNER'S OBSERVATIONS

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Practical 6

INSERT, RESIZE, AND EDIT IMAGES IN A DOCUMENT IN MS WORD 2019

Insert, resize, and edit images in a document to make it more attractive and informative in MS Word 2019.

OBJECTIVES

After completing this practical, you will be able:

- To learn how to insert an image in the document in Microsoft Word 2019
- To resize and edit inserted images in MS Word 2019

REQUIREMENTS

- **Hardware:** A Computer System having 1.6 GHz or faster or 2-core processor, RAM 2 GB (32-bit) / 4 GB (64-bit), storage of minimum 4 GB free disk space
- **Software:** Microsoft Office 2019, Windows Operating System (Windows 10 or later version)
- **Internet Connection:** Required for Software updates

PROCEDURE

1. **Open MS Word 2019 and create or open a document:** Open MS Word 2019 and create a new blank document or open an existing document → Place the cursor in the document where you want to insert the image
2. **Insert an image.**
 - o Go to the **Insert** tab.
 - o Click on **Pictures** → choose **This Device**, **Stock Images**, or **Online Pictures**.
 - o Browse and select the image → click **Insert**.

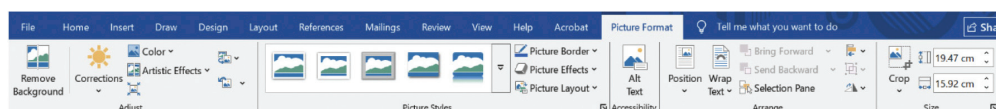


3. Resize the image.

- o Click on the image.
- o Drag the corner handles to make it smaller or larger while maintaining proportions.

4. Format the image.

- o Click on the image → go to the **Picture Format** tab.



- o Use options such as:
 - (i) **Picture Styles:** Apply borders, shadows, and effects.
 - (ii) **Corrections:** Adjust brightness and contrast.
 - (iii) **Color:** Recolor or tone the image.
 - (iv) **Crop:** Trim unwanted parts of the image.
 - (v) **Wrap Text:** Choose how text appears around the image (e.g., Square, Tight, Behind Text).

5. Save the document.

- o Click **File** → **Save As** → choose location and file name → click **Save**.

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Practical 7

INSERT, RESIZE, AND EDIT SHAPES IN MS WORD 2019

Insert, resize, and edit Shapes in MS Word 2019 to make a document more attractive and informative.

OBJECTIVES

After completing this practical, you will be able:

- To learn how to insert a Shape in the document in Microsoft Word 2019 to improve the visual presentation of a document.
- To resize and format inserted shapes in MS Word 2019

REQUIREMENTS:

- **Hardware:** A Computer System having 1.6 GHz or faster or 2-core processor, RAM 2 GB (32-bit) / 4 GB (64-bit), storage of minimum 4 GB free disk space
- **Software:** Microsoft Office 2019, Windows Operating System (Windows 10 or later version)
- **Internet Connection:** Required for Software updates

PROCEDURE

1. **Open MS Word 2019 and create or open a document:** Open MS Word 2019 and create a new blank document or open an existing document→Place the cursor in the document where you want to insert the Shape.
2. **Insert a Shape**
 - (a) Go to the Insert tab.
 - (b) Click Shapes.
 - (c) Select any shape (e.g., rectangle, circle, arrow).
 - (d) Click and drag on the document to draw the shape.



Notes

3. Resize the Shape

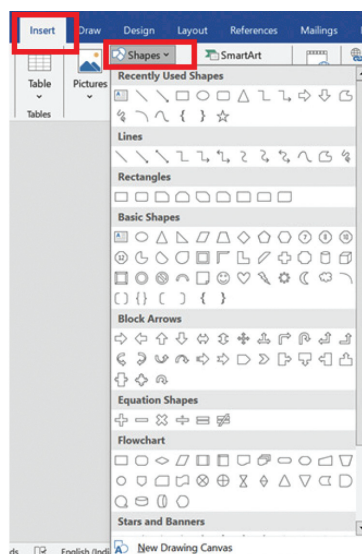
- Click the shape to select it.
- Drag the corner handles to resize proportionally.
- Drag the side handles to stretch the shape horizontally or vertically.

4. Move the Shape

- Click and hold the shape.
- Drag it to any desired location in the document.

5. Format the Shape

- Click the shape → go to the Shape Format tab.
- Use formatting options such as:
 - Shape Fill: Change the color of the shape.
 - Shape Outline: Modify border color, thickness or style.
 - Shape Effects: Apply shadow, glow, reflection, and other effects.
 - Add Text: Right-click → Add Text, then type inside the shape.



6. Save the document.

- Click **File** → **Save As** → choose location and file name → click **Save**.

LEARNER'S OBSERVATIONS

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Practical 8

INSERT, RESIZE, AND EDIT SMARTART IN MS WORD 2019

Title: Insert, resize, and edit SmartArt in MS Word 2019 to make a document more attractive and informative.

OBJECTIVES

After completing this practical, you will be able:

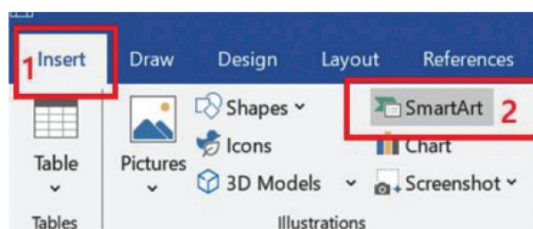
- To learn how to insert SmartArt graphics in MS Word 2019 to enhance the presentation and clarity of a document.
- To resize and edit inserted SmartArt graphics in MS Word 2019

REQUIREMENTS

- **Hardware:** A Computer System having 1.6 GHz or faster or 2-core processor, RAM 2 GB (32-bit) / 4 GB (64-bit), storage of minimum 4 GB free disk space
- **Software:** Microsoft Office 2019, Windows Operating System (Windows 10 or later version)
- **Internet Connection:** Required for Software updates

PROCEDURE

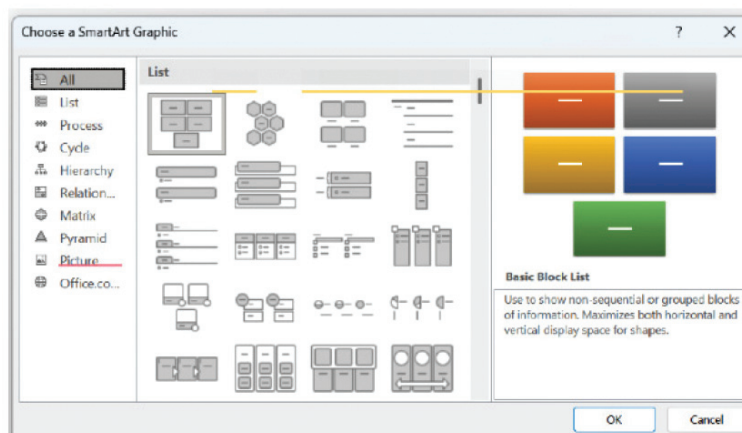
1. **Open MS Word 2019 and create or open a document:** Open MS Word 2019 and create a new blank document or open an existing document → Place the cursor in the document where you want to insert the SmartArt object.





2. Insert SmartArt.

- (a) Go to the **Insert** tab.
- (b) Click **SmartArt**.
- (c) Choose a category such as:
 - (i) **List**
 - (ii) **Process**
 - (iii) **Cycle**
 - (iv) **Hierarchy**
 - (v) **Relationship**
- (d) Select a SmartArt layout → click **OK**.



3. Add or Edit Text in SmartArt.

- (a) Click on the SmartArt graphic.
- (b) Use the **Text Pane** on the left to type or edit text.
- (c) Press **Enter** to add new items or bullets.

4. Resize SmartArt.

- (a) Click on the SmartArt graphic to select it.
- (b) Drag the **corner handles** to increase or decrease size.
- (c) Ensure proportional resizing for better appearance.



Notes

5. Format SmartArt.

- (a) Go to the **SmartArt Design** and **Format** tabs.



- (b) Options include:

- (i) **Change Colors:** Apply different color schemes.
- (ii) **SmartArt Styles:** Apply 3D, shadow, outline, or glow effects.
- (iii) **Add Shape:** Insert additional shapes or blocks inside the SmartArt.
- (iv) **Promote/Demote:** Change the level or hierarchy of elements.
- (v) **Layout:** Change to another SmartArt layout without losing text.

6. Save the Document.

- (a) Click **File** → **Save As** → choose folder → enter file name → click **Save**.

LEARNER'S OBSERVATIONS

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Practical 9

INSERT TABLES IN MS WORD 2019

Insert tables in MS Word 2019 to organize and present data in a clear tabular format, enhancing the overall appearance and readability of the document.

Sample Table: Student Grade Report

Roll No.	Student Name	Subject	Marks	Grade	Remarks
1	Amaira	Artificial Intelligence	90	A	Good
2	Raj	Maths	89	B+	Satisfactory
3	Samarth	Science	86	B+	Satisfactory
4	Garvit	English	79	B	Need more effort
5	John	Basic Computers	95	A+	Excellent

OBJECTIVES

After completing this practical, you will be able:

- To learn how to insert Tables in MS Word 2019.
- To represent data effectively in a tabular format.

REQUIREMENTS:

- **Hardware:** A Computer System having 1.6 GHz or faster or 2-core processor, RAM 2 GB (32-bit) / 4 GB (64-bit), storage of minimum 4 GB free disk space
- **Software:** Microsoft Office 2019, Windows Operating System (Windows 10 or later version)
- **Internet Connection:** Required for Software updates



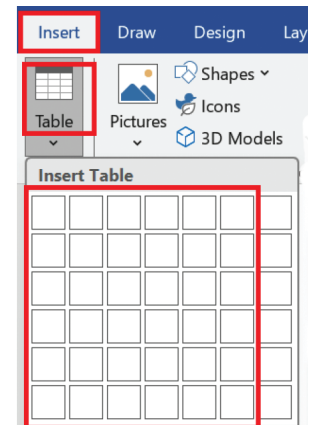
Notes

PROCEDURE

1. **Open MS Word 2019 and create or open a document:** Open MS Word 2019 and create a new blank document or open an existing document→Place the cursor in the document where you want to insert the Table.

2. **Insert Table:** Position the cursor in the document where the Table needs to be added

- Click on the Insert Tab→Table option.
- Roll over the mouse on the grid to specify the total number of rows and columns as per the requirement while holding the left mouse button. According to the sample table, it has 6 rows and 6 columns.
- As soon as you release the mouse button, a blank table containing a specified number of rows and columns will be inserted into the document as shown here.



3. **Enter data:** Enter the Sample Table data in the blank table.

4. **Save the Document:** Click **File** → **Save As** → choose folder → enter file name → click **Save**.

LEARNER'S OBSERVATIONS

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Practical 10

DISPLAY THE CONTENT IN BULLETS AND NUMBERING FORMAT

Display the content in bullets and numbering format for better structuring.

SAMPLE CONTENT

The Seven Continents and a Few of Their Countries

1. Asia

- India
- China

2. Africa

- Egypt
- South Africa

3. North America

- United States
- Canada

4. South America

- Brazil
- Argentina

5. Antarctica

- (No permanent countries – only research stations from various nations)

6. Europe

- France
- Germany



Notes

7. Australia (Oceania)

- Australia
- New Zealand

OBJECTIVES

After completing this practical, you will be able to:

- Display content using **bullets and numbering** for better structure.
- Organize information clearly in a hierarchical format.

REQUIREMENTS

- **Hardware:** A Computer System having 1.6 GHz or faster or 2-core processor, RAM 2 GB (32-bit) / 4 GB (64-bit), storage of minimum 4 GB free disk space
- **Software:** Microsoft Office 2019, Windows Operating System (Windows 10 or later version)
- **Internet Connection:** Required for Software updates

PROCEDURE

1. **Open MS Word 2019 and create or open a document:** Open MS Word 2019 and create a new blank document or open an existing document.
2. **Type the Main Heading or Title**
 - Example: *The Seven Continents and a Few of Their Countries*
 - Apply formatting as needed (bold, center-aligned, larger font size).
3. **Insert a Numbered List for Continents**
 - (a) Go to the **Home** tab → Paragraph group → click the **Numbering** button.
 - (b) Type each continent name and press **Enter** to add the next number automatically.
4. **Insert a Bulleted List for Countries**
 - (a) Place the cursor under the continent name.
 - (b) Press **Tab** (to indent) → click the **Bullets** button in the Home tab.
 - (c) Type the countries for that continent, pressing **Enter** after each one.



Notes

5. Repeat Numbering and Bullets for All Continents

Ensure each continent is numbered, and countries are bulleted and indented properly.

6. Adjust Formatting (Optional)

- (a) Modify font style, size, and color for better readability.
- (b) Change bullet or numbering style if desired.

7. Save the Document

Click **File** → **Save As**, choose a location, enter a file name (e.g., *continents.docx*), and click **Save**.

LEARNER'S OBSERVATIONS

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Practical 11

SET UP PAGE LAYOUT, MARGINS, PARAGRAPHS, AND ORIENTATION IN WORD 2019

OBJECTIVES

After completing this practical, you will be able to:

- Adjust the page layout in MS Word.
- Set appropriate margins for a document.
- Format paragraph alignment, spacing, and indentation.
- Change the page orientation between Portrait and Landscape.

REQUIREMENTS

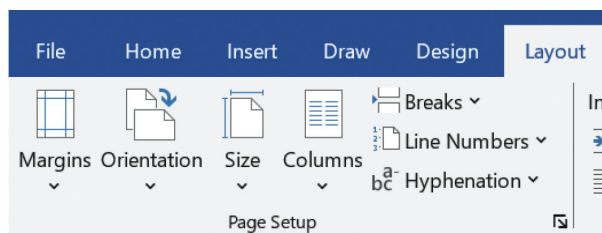
- **Hardware:** A Computer System having 1.6 GHz or faster or 2-core processor, RAM 2 GB (32-bit) / 4 GB (64-bit), storage of minimum 4 GB free disk space
- **Software:** Microsoft Office 2019, Windows Operating System (Windows 10 or later version)
- **Internet Connection:** Required for Software updates

PROCEDURE

1. **Open MS Word 2019 and create or open a document:** Open MS Word 2019 and create a new blank document or open an existing document.
2. **Set Up Page Layout:**
 - Go to the Layout tab on the Ribbon.
 - Under the Page Setup group, you can modify various settings like margins, orientation, and paper size.



Notes



3. Adjust Margins:

Click on Margins → choose a predefined option (e.g., Normal, Narrow, Wide) or click Custom Margins to set your own values.

4. Change Page Orientation:

- In the Layout tab → click Orientation → select Portrait or Landscape as needed.

5. Format Paragraphs:

- Go to the Home tab → Paragraph group.
- Set alignment (Left, Center, Right, Justify).
- Adjust line spacing using the Line and Paragraph Spacing option.
- Use the Increase/Decrease Indent buttons to manage paragraph indentation.

6. Preview the Layout

Click File → Print Preview to see how the page will appear when printed.

7. Save the Document

LEARNER'S OBSERVATIONS

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Instructor's Signature



Practical 12

USE THE SPELLING AND GRAMMAR TOOL TO IDENTIFY AND CORRECT ERRORS IN MS WORD 2019 DOCUMENTS

OBJECTIVES

After completing this practical, you will be able:

- Identify spelling and grammatical errors in a Word document.
- Use the Spelling & Grammar tool to correct mistakes.
- Improve the overall accuracy and professionalism of written content.

REQUIREMENTS

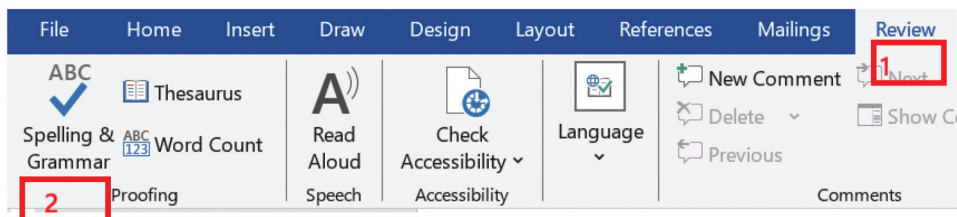
- **Hardware:** A Computer System having 1.6 GHz or faster or 2-core processor, RAM 2 GB (32-bit) / 4 GB (64-bit), storage of minimum 4 GB free disk space
- **Software:** Microsoft Office 2019, Windows Operating System (Windows 10 or later version)
- **Internet Connection:** Required for Software updates

PROCEDURE

1. **Open MS Word 2019 and create or open a document:** Open MS Word 2019 and create a new blank document, write the content or open an existing document that has some content in it.
2. **Access the Spelling & Grammar Tool:** On the Ribbon→Go to the Review tab →Proofing group→Click on the Spelling & Grammar button

OR

Press **F7** key



3. The Proofing window will open on the right side of the document.
4. **Review the Suggested Corrections.** In the Proofing window, all possible correction suggestions will be displayed in the Suggestion box.
5. **Choose an Action for Each Error:** You have two ways to accept the suggestions:
 - Either click on any of the desired suggestions in the Proofing window, and it will be implemented automatically on the document.

OR

 - Right-click directly on the erroneous word, select the suggested correct word by left-clicking on that.
 - Click Ignore to skip the suggestion.
 - Click Add to Dictionary to include a new or proper name that Word doesn't recognize.
6. Continue Until All Errors Are Reviewed.
7. Save the Document

LEARNER'S OBSERVATIONS

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Instructor's Signature



Practical 13

TROUBLESHOOT COMMON MS WORD ISSUES SUCH AS FORMATTING INCONSISTENCIES OR MISSING IMAGES

OBJECTIVES

After completing this practical, you will be able:

- Identify and resolve common problems encountered in MS Word documents.
- Fix formatting inconsistencies that affect document presentation.
- Recover or reinsert missing images.

REQUIREMENTS

- **Hardware:** A Computer System having 1.6 GHz or faster or 2-core processor, RAM 2 GB (32-bit) / 4 GB (64-bit), storage of minimum 4 GB free disk space
- **Software:** Microsoft Office 2019, Windows Operating System (Windows 10 or later version)
- **Internet Connection:** Required for Software updates

PROCEDURE

1. **Open MS Word 2019 and create or open a document:** Open MS Word 2019 and create a new blank document, write the content or open an existing document that contains issues such as formatting errors or missing images.
2. **Identify Formatting Inconsistencies:**
 - Look for irregular font sizes, spacing, alignment, or styles.
 - Use the Home → Styles group to apply consistent formatting.



Notes

OR

- Select text →click Clear All Formatting if necessary, then reapply styles.
3. Resolve Missing Images.
If the image file is missing, reinsert it from the source folder by clicking on Insert → Pictures.
 4. Use the Repair Option (if needed).
If Word crashes or behaves unexpectedly, go to Control Panel → Programs → Microsoft Office → Change → Repair to fix installation issues.
 5. Save the Document

LEARNER'S OBSERVATIONS

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Instructor's Signature



Practical 14

MAIL MERGE FUNCTIONALITY THROUGH MAIL MERGE WIZARD

Use the Mail Merge functionality through **Mail Merge Wizard** to generate personalised documents in MS Word, such as generating personalised **certificates or Appreciation Letters for participants**.

Main Document: Certificate

Data Source: List of participants (Example Fields: Participant Name, Event Name, Date)

Sample Output:

TO WHOM SO EVER IT MAY CONCERN

This certificate is proudly presented to **Ms. Nita Kapoor** for her outstanding participation in the **Inter-School Basketball Competition** held on **8th November 2025**.

Director Sports
Mr. Dharamveer Goel

OBJECTIVES

After completing this practical, you will be able to:

- Understand the concept of Mail Merge in MS Word.
- Use **Mail Merge Wizard** to create personalized documents (e.g., certificates, letters).
- Link a data source to a main document for automatic field insertion.



REQUIREMENTS

- **Hardware:** A Computer System having 1.6 GHz or faster or 2-core processor, RAM 2 GB (32-bit) / 4 GB (64-bit), storage of minimum 4 GB free disk space
- **Software:** Microsoft Office 2019, Windows Operating System (Windows 10 or later version)
- **Internet Connection:** Required for Software updates

PROCEDURE

1. **Open MS Word 2019 and follow the given steps:** Open a blank document
→Click on the Mailing tab→Click on the Start Mail Merge option
Choose **Step-by-Step Mail Merge Wizard** option.

The Mail Merge panel will open on the right side of the document.

Steps to perform Mail Merge through the Mail Merge Wizard dialog box:

Step 1 of 6: Select the document type **Letters** to specify the type of document you are working on as it works best for certificates or letters.

Click on **Next** at the bottom panel to proceed to the next step.

Step 2 of 6: Choose **Use the current document**→click on **Next** at the bottom panel

Step 3 of 6: Choose “**Type a new list**” option.

An option **Create** will appear.

Click on the **Create...**→**New Address List** box will open.

Click on **Customize Columns...** button present at the bottom.

Customize Address List box will appear.

Arrange the Field Names as per the requirement→ Click on the **OK** button

Customize Address List box will be closed and **New Address List** box will be active to take all the entries.

You can use the “**New Entry**” and “**Delete Entry**” button as per the requirement. Once all the recipients’ entries are done, click on the “**OK**” button.

“**Mail Merge Recipients**” box will open to let you make any modification in the recipients list if by chance its required.

If finally everything is all right in the Mail Merge Recipients box, click on the **OK** button.



Notes

The Save Address List box will open→Give a suitable name and click on the Save button.

Click on the “**Next: Write your letter**” button to go to the next step.

Step 4 of 6: In this step, you need to write the Certificate’s content.

Once certificate writing is done, place the cursor where you want to add the recipient data and click on the **More items** link on the Mail Merge panel → Insert Merge Field box will open → Select Field Name→Click on the Insert Button.

Repeat the same process again for the other fields to be inserted in the main document.

Once all the fields have been inserted, close the Insert Merge Field Box.

Click on the “**Next: Preview your letters**” button

Step 5 of 6: In this step, you can preview your letters if everything is all right....

Your document will be displayed as shown here

Click on the “**Next: Complete the merge**” button to complete the merge.

Step 6 of 6: In this step, you can take printout of the certificates and if required you can edit individual letters and save them on your disk as well.

So in this way, with the help of the Mail Merge Wizard, your certificates are ready to be shared with recipients within minutes, in a professional way, with minimal effort.

Save the Output: Save the final merged document as *Certificates.docx*.

LEARNER’S OBSERVATIONS

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Instructor’s Signature



Practical 15

OPEN MICROSOFT EXCEL 2019, CREATE A NEW WORKSHEET, ENTER DATA, AND SAVE IT FOR FUTURE USE

OBJECTIVES

After completing this practical, you will be able:

- To learn how to open Microsoft Excel 2019
- To create a new worksheet, enter data
- To save the worksheet for later use.

REQUIREMENTS

- **Hardware:** A Computer System having 1.6 GHz or faster or 2-core processor, RAM 2 GB (32-bit) / 4 GB (64-bit), storage of minimum 4 GB free disk space
- **Software:** Microsoft Office 2019, Windows Operating System (Windows 10 or later version)
- **Internet Connection:** Required for Software updates

PROCEDURE

1. Open Microsoft Excel 2019

- Click on the Start menu.
- Type Excel in the search bar.
- Click on Microsoft Excel 2019 to open the program.

2. Create a New Worksheet

- On the Excel start screen, click Blank Workbook.
- A new worksheet will appear with default columns (A, B, C, ...) and rows (1, 2, 3, ...).



Notes

3. Enter Data

- Click on any cell and start typing your data.
- Press Enter to move to the next cell below or Tab or Right Arrow key (→) to move to the next cell on the right.
- Enter the data as given here:

	A	B	C	D	E	F
1	CRICKET RANKING					
2	SNO	PLAYER NAME	CATEGORY	POINTS	RANKING	COUNTRY
3	1	Michel	Batsman	89000%	3	England
4	2	Ramanujan	Baller	90000%	1	India
5	3	Anthony	Batsman	84000%	4	Australia
6	4	Harshdeep	Batsman	89900%	2	India
7	5	Joe	Baller	80000%	5	Australia

4. Save the Worksheet

- Click File → Save As.
- Choose a location (e.g., Documents folder).
- Enter a file name such as Cricket_Rankings.xlsx.
- Click Save.

5. Close Excel

- After saving, click File → Close or press Alt + F4.

LEARNER'S OBSERVATIONS

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Instructor's Signature



Practical 16

TYPE AND FORMAT DIFFERENT TYPES OF DATA

Type and format different types of data (such as text, numbers, dates, currency, and percentages), using formatting options in cells, like adjusting font, color, alignment, borders, and number formats.

OBJECTIVES

After completing this practical, you will be able:

- To learn how to enter different types of data in Microsoft Excel
- To apply various cell formatting options to improve the appearance and readability of the worksheet.

REQUIREMENTS

- **Hardware:** A Computer System having 1.6 GHz or faster or 2-core processor, RAM 2 GB (32-bit)/ 4 GB (64-bit), storage of minimum 4 GB free disk space
- **Software:** Microsoft Office 2019, Windows Operating System (Windows 10 or later version)
- **Internet Connection:** Required for Software updates

PROCEDURE

1. **Open Microsoft Excel 2019, then do one of the following:**

- Select Blank Workbook to create a new worksheet and enter the required data of different data types like numbers, dates, currency and percentages.

OR

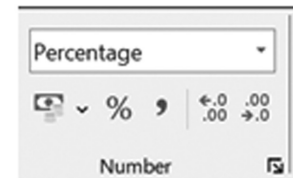
- Open an existing workbook that was created earlier.



Notes

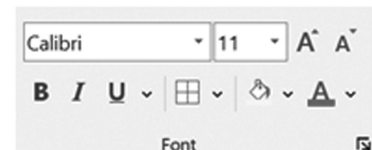
2. Apply Formatting Options:

- **Number Formatting:** Select cells with numbers → Go to Home → Number Format group → choose Number, Currency, or Percentage from the Number Format dropdown by clicking on them as per the requirement.



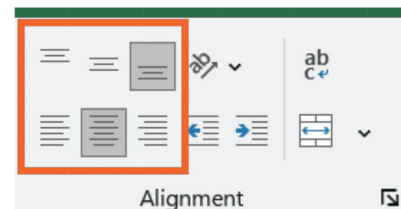
- **Font Formatting:**

1. Select the data → Go to Home → Font group.
2. Apply Bold, Italic, or Underline as needed.
3. Change font style, size, or color.
4. Add borders for a table-like look.



- **Alignment:**

1. Select the data → Go to Home → Alignment group
2. Click on Center, Align Left, or Align Right, Top Align, Middle Align or Bottom Align alignment button as per the requirement.
3. Use Wrap Text for long content.
3. Save the Worksheet.



LEARNER'S OBSERVATIONS

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Instructor's Signature



Practical 17

NAVIGATE BETWEEN MULTIPLE SPREADSHEETS WITHIN AN MS EXCEL WORKBOOK FOR EFFECTIVE DATA MANAGEMENT

OBJECTIVES

After completing this practical, you will be able:

- Learn how to navigate between multiple spreadsheets within an MS Excel workbook for effective data management.

REQUIREMENTS

- **Hardware:** A Computer System having 1.6 GHz or faster or 2-core processor, RAM 2 GB (32-bit) / 4 GB (64-bit), storage of minimum 4 GB free disk space
- **Software:** Microsoft Office 2019, Windows Operating System (Windows 10 or later version)
- **Internet Connection:** Required for Software updates

BASIC KNOWLEDGE

- Excel workbooks can contain multiple spreadsheets (also called worksheets). A worksheet is represented by one tab within an Excel workbook.
- Each worksheet tab appears at the bottom of Excel as a tab (e.g., *Sheet1*, *Sheet2*, *Report*, *Data*).

PROCEDURE

1. Navigating Between Worksheets



Notes

Using the Mouse

- Click on any sheet tab at the bottom of the workbook to switch to that sheet.

Using Keyboard Shortcuts

- **Ctrl + Page Down** → Move to the next sheet.
- **Ctrl + Page Up** → Move to the previous sheet.

2. Changing Worksheet Order

You can rearrange sheets to group related data.

Steps:

1. Click and hold a sheet tab.
2. Drag it left or right.
3. Release it where you want it placed.

LEARNER’S OBSERVATIONS

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Instructor’s Signature



Practical 18

SET UP PAGE MARGINS, ORIENTATION AND PAGE LAYOUT IN MS EXCEL 2019

Set up page margins, orientation and page layout to create a well-structured and organized Excel sheet ready for printing in MS Excel 2019.

OBJECTIVES

After completing this practical, you will be able:

- To learn how to set up margins
- To adjust page layout settings, and
- To set up page orientation

REQUIREMENTS

- **Hardware:** A Computer System having 1.6 GHz or faster or 2-core processor, RAM 2 GB (32-bit)/ 4 GB (64-bit), storage of minimum 4 GB free disk space
- **Software:** Microsoft Office 2019, Windows Operating System (Windows 10 or later version)
- **Internet Connection:** Required for Software updates

PROCEDURE

1. **Open Microsoft Excel 2019, then do one of the following:**

- Select Blank Workbook to create a new worksheet and enter the required data.

OR

- Open an existing workbook that was created earlier.



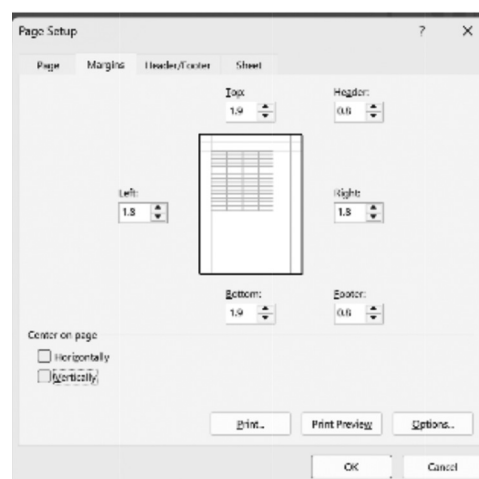
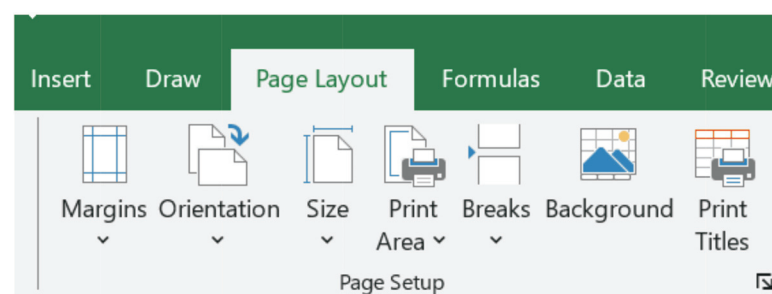
Notes

2. Set Up Margins.

- Go to the **Page Layout** tab.
- Click **Margins** → Choose anyone out of **Normal/Wide/Narrow** or **Custom Margins** and Adjust **Top, Bottom, Left, and Right** margins as needed.

Example: Top = 1.0", Bottom = 1.0", Left = 0.75", Right = 0.75".

Click **OK** to apply.



3. Adjust Page Orientation and Size.

- Go to the **Page Layout** tab
- Click **Orientation** → choose **Portrait** or **Landscape**.
- Click **Size** → select **A4** or the preferred page size.



Notes

4. Preview and Save.

- Click **File → Print Preview** to check layout and margins.
- Make adjustments if needed.
- Save the file.

LEARNER'S OBSERVATIONS

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Instructor's Signature



Practical 19

SORT DATA IN MS EXCEL FOR BETTER DATA ORGANIZATION

OBJECTIVES

After completing this practical, you will be able:

- To learn how to sort data in Microsoft Excel for easier viewing, comparison, and analysis, helping improve overall data organization and presentation.

REQUIREMENTS

- **Hardware:** A Computer System having 1.6 GHz or faster or 2-core processor, RAM 2 GB (32-bit) / 4 GB (64-bit), storage of minimum 4 GB free disk space
- **Software:** Microsoft Office 2019, Windows Operating System (Windows 10 or later version)
- **Internet Connection:** Required for Software updates

PROCEDURE

1. Open Microsoft Excel.

Launch **Microsoft Excel 2019** and open a worksheet containing the data to be sorted.

For example, a worksheet named Cricket_Rankings.xlsx created while doing Practical number-1 can be sorted on the ranking column.

2. Select the Data Range.

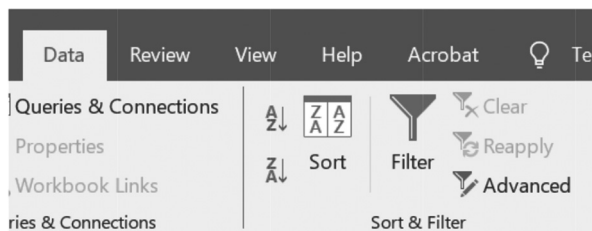
Click and drag to select the range of cells you want to sort.



3. Use the Sort Option.

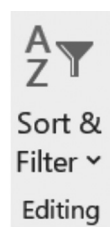
- Go to the **Data** tab on the Ribbon.

- Go to the Sort & Filter group → Click on the **A to Z** (ascending) or **Z to A** (descending) button for quick sorting.



By default, Excel sorts the data based on the values in the **first column**.

- To sort based on other columns or for more options while sorting, click **Sort** → choose the column you want to sort by (e.g., Points or Country).
- Select **Ascending** or **Descending** → click **OK**.



Note: Sort option is also available on the Editing group of the Home tab.

4. Verify and Save the Sorted Data.

- Check that the data order is correct.
- Save the workbook.

LEARNER'S OBSERVATIONS

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Instructor's Signature



Practical 20

FILTER DATA IN MS EXCEL FOR BETTER DATA ORGANIZATION

OBJECTIVES

After completing this practical, you will be able:

- To learn how to apply filters in Microsoft Excel in order to view, analyze, and organize specific portions of data efficiently.

REQUIREMENTS

- **Hardware:** A Computer System having 1.6 GHz or faster or 2-core processor, RAM 2 GB (32-bit) / 4 GB (64-bit), storage of minimum 4 GB free disk space
- **Software:** Microsoft Office 2019, Windows Operating System (Windows 10 or later version)
- **Internet Connection:** Required for Software updates

PROCEDURE

1. Open Microsoft Excel

Launch **Microsoft Excel 2019** and open a worksheet containing the data to be filtered.

For example, a worksheet named Cricket_Rankings.xlsx created while doing Practical number-1 can be filtered on the category column.

2. Select the Data Range.

- Ensure that your data has column headers (e.g., SNO, PLAYER NAME, CATEGORY, POINTS, RANKING, COUNTRY).
- Click anywhere within your dataset.



3. Apply Filter.

- Go to the **Data** tab on the Ribbon → Click on the **Filter** button (funnel icon).

OR

Click the **Home** tab on the menu bar → In the **Editing** group, click the **Sort & Filter** drop-down button.

OR

Press the shortcut keys: **CTRL+SHIFT+L**

- Small drop-down arrows will appear next to each column header.

4. Filter Data by Specific Criteria.

- Click the drop-down arrow in the column you want to filter (e.g., Category).
- Uncheck **Select All**, then check only the desired item (e.g., *Batsman*).
- Click **OK** → only Batsman details will be displayed.

Note: You can apply filters on more than one column (e.g., Category = Batsman, Country = India) to refine the data view.

5. Clear or Remove Filters.

- To clear filters, click the **Filter** icon again → select **Clear Filter from [Column Name]**.
- To remove all filters, go to **Data → Filter** and click again to turn it off.

6. Save the Filtered Data.

Click **File → Save As**, name your file (e.g., *Batsman_Data.xlsx*), and click **Save**.

LEARNER'S OBSERVATIONS

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Instructor's Signature



Practical 21

USE MATHEMATICAL FORMULAS IN MS EXCEL 2019 TO PERFORM CALCULATIONS

OBJECTIVES

After completing this practical, you will be able:

- To learn how to use basic mathematical formulas in Microsoft Excel to perform mathematical operations on data efficiently.

REQUIREMENTS

- **Hardware:** A Computer System having 1.6 GHz or faster or 2-core processor, RAM 2 GB (32-bit) / 4 GB (64-bit), storage of minimum 4 GB free disk space
- **Software:** Microsoft Office 2019, Windows Operating System (Windows 10 or later version)
- **Internet Connection:** Required for Software updates

PROCEDURE

1. Open Microsoft Excel

Launch **Microsoft Excel 2019** and open an existing workbook already having data **OR** open a new workbook and enter the required data.

Sample Data

	A	B	C	D
1	SALE DETAILS			
2	PID	PNAME	QTY	UNIT PRICE
3	1	KEYBOARD	4	550
4	2	MOUSE	6	450
5	3	PRINTER	2	13500
6	4	LAPTOP	1	87000
7	5	SSD(256GB)	3	13000
8				



2. Click the cell where you want to enter the formula.

For example, in this case, let's calculate the total quantity sold. So, click the **C8** cell.

3. Type the **equal sign (=)** as all formulas in Excel begin with this symbol.
4. Enter the formula as required. For example, to add the five quantity values, you can use either of the following:
 - Using direct values: $=4+6+2+1+3$

OR

Using cell references: $=C3+C4+C5+C6+C7$

Here, **C3, C4, C5, C6** and **C7** are the cell addresses containing the values to be added.

Once you have entered the formula, press the **Enter** key. You will notice that the formula disappears from the cell, and the **calculated result** is displayed instead.

LEARNER'S OBSERVATIONS

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Instructor's Signature



Practical 22

USE FUNCTIONS IN MS EXCEL2019 TO PERFORM MATHEMATICAL CALCULATIONS

OBJECTIVES

After completing this practical, you will be able:

- To learn how to use basic functions (sum, average, max, min, count etc.) in Microsoft Excel to perform mathematical and logical operations on data efficiently.

REQUIREMENTS:

- **Hardware:** A Computer System having 1.6 GHz or faster or 2-core processor, RAM 2 GB (32-bit) / 4 GB (64-bit), storage of minimum 4 GB free disk space
- **Software:** Microsoft Office 2019, Windows Operating System (Windows 10 or later version)
- **Internet Connection:** Required for Software updates

PROCEDURE

1. Open Microsoft Excel.

Launch **Microsoft Excel 2019** and open an existing workbook already having data **OR** open a new workbook and enter the required data.

Sample Data

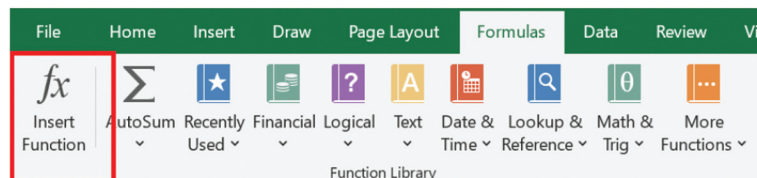
	A	B	C	D
1	SALE DETAILS			
2	PID	PNAME	QTY	UNIT PRICE
3	1	KEYBOARD	4	550
4	2	MOUSE	6	450
5	3	PRINTER	2	13500
6	4	LAPTOP	1	87000
7	5	SSD(256GB)	3	13000
8				



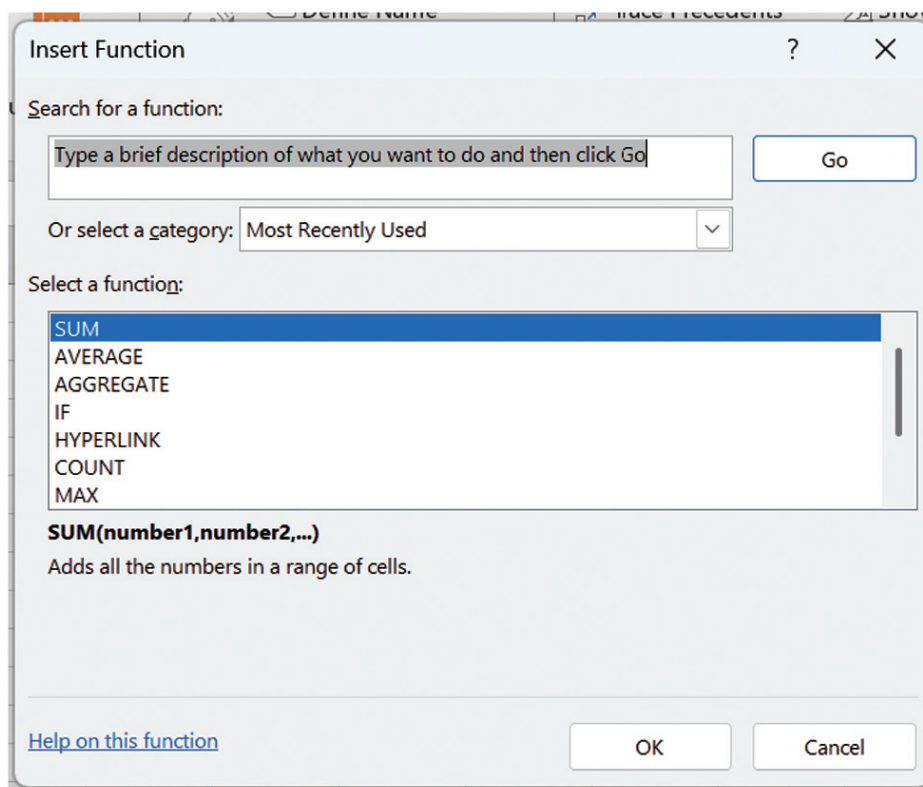
2. Click the cell where you want to enter the function.

For example, in this case, let's calculate the total quantity sold. So, click the **C8** cell.

3. Go to Formulas tab→Click on the Insert Function.



The Insert Function dialog box will appear.



4. Type a brief description in the **Search for a function box**

OR

Select a Category from the drop-down list.

A list of related functions will then appear in the Function list box. Select the desired function (In this case, sum() function) and click the **OK** button.



Notes

The **Function Arguments** dialog box will appear, displaying the cell references of the values on which the selected function will operate.

Function Arguments

SUM

Number1: C3:C7 = {4;6;2;1;3}

Number2: = number

Adds all the numbers in a range of cells.

Formula result = 16

Help on this function

OK Cancel

By default, Excel automatically detects and displays a cell range with reference to the cell selected for the result to display. But if you wish to use a different range, you can manually select the required cells.

5. Click the OK button.

The **Function Arguments** dialog box will close, and the result will be displayed in the selected cell.

Note: Alternatively, you can also try any one of the following ways:

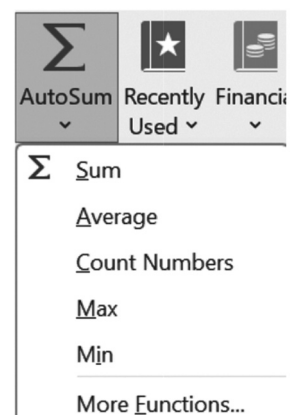
- Directly select the desired **category** and **function** from the **Function Library** group on the **Formulas** tab.
- Go to the **Home** tab → **Editing** group → click **AutoSum (Σ)**.

OR

Go to the **Formulas** tab → **Function Library** group → click **AutoSum (Σ)**.

Excel automatically selects the nearby range of numbers.

Press **Enter** to get the total.





The **AutoSum** tool can also be used to apply other functions such as **AVERAGE**, **MAX**, **MIN**, and **COUNT** in addition to **SUM** in a quicker way.

A few other useful Built-in Functions which can be applied on the above given data:

- **Average Price:** =AVERAGE(D3:D7)
- **Highest Price:** =MAX(D3:D7)
- **Lowest Price:** =MIN(D3:D7)
- **Count of Items:** =COUNT(D3:D7)

LEARNER'S OBSERVATIONS

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Instructor's Signature



Practical 23

CREATE AND FORMAT CHARTS AND GRAPHS IN MS EXCEL TO REPRESENT DATA VISUALLY

OBJECTIVES

After completing this practical, you will be able:

- To learn how to create different types of charts and graphs in MS Excel and use them to visually represent data for better understanding.

PREREQUISITES

- Basic knowledge of entering and selecting data in Excel
- Understanding of worksheets, rows, and columns

REQUIREMENTS

- **Hardware:** A Computer System having 1.6 GHz or faster or 2-core processor, RAM 2 GB (32-bit) / 4 GB (64-bit), storage of minimum 4 GB free disk space
- **Software:** Microsoft Office 2019, Windows Operating System (Windows 10 or later version)
- **Internet Connection:** Required for Software updates

PROCEDURE

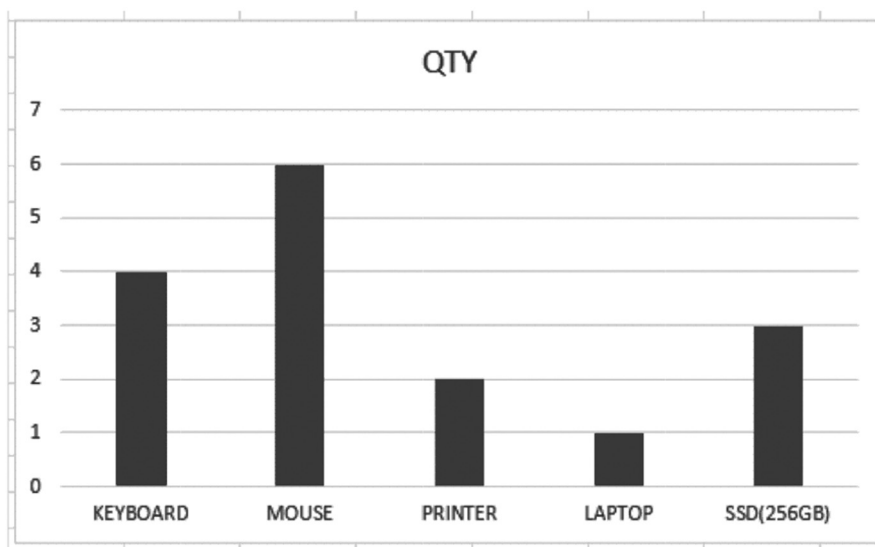
1. Open Microsoft Excel.

Launch **Microsoft Excel 2019** and open an existing workbook already having data **OR** open a new workbook and enter the required data.



Sample Data

	A	B	C	D
1	SALE DETAILS			
2	PID	PNAME	QTY	UNIT PRICE
3	1	KEYBOARD	4	550
4	2	MOUSE	6	450
5	3	PRINTER	2	13500
6	4	LAPTOP	1	87000
7	5	SSD(256GB)	3	13000



2. Select the complete data range you want to include in the chart.

For example, in this case, let's make a graph of product wise qty sold.

3. Insert a Chart

- (a) Go to the **Insert** tab on the Ribbon.
- (b) In the **Charts** group, choose a chart type (Column, Bar, Line, Pie, etc.). In this case, its column chart.

Types of Charts in Excel

- **Column Chart** – Displays data as vertical bars
- **Bar Chart** – Displays data as horizontal bars
- **Line Chart** – Shows trends or changes over time



Notes

- **Pie Chart** – Represents parts of a whole
- **Area Chart** – Shows magnitude of change over time
- **Scatter Chart** – Shows relationship between two variables

(c) Click on the chart style you want.

(d) Excel automatically inserts the chart into the worksheet.

4. **Format a Chart**

(a) Select the Chart → Go to the **Chart Design** tab on the Ribbon.

(b) Choose the desired colors, styles, etc.

LEARNER'S OBSERVATIONS

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Instructor's Signature



Practical 24

USE EXCEL PIVOT TABLE

OBJECTIVES

After completing this practical, you will be able:

- To learn how to use key Excel function-**PivotTables**-to analyze, summarize, and visually present data effectively.

PREREQUISITES

- Basic knowledge of entering and selecting data in Excel
- Understanding of worksheets, rows, and columns

REQUIREMENTS

- **Hardware:** A Computer System having 1.6 GHz or faster or 2-core processor, RAM 2 GB (32-bit) / 4 GB (64-bit), storage of minimum 4 GB free disk space
- **Software:** Microsoft Office 2019, Windows Operating System (Windows 10 or later version)
- **Internet Connection:** Required for Software updates

PURPOSE

A Pivot Table quickly summarizes large datasets. It helps you to:

- Calculate totals, averages, counts
- Group data (e.g., months, quarters, ranges)
- Filter and compare categories
- Create dynamic, refreshable reports



Notes

PROCEDURE

1. Open Microsoft Excel

Launch **Microsoft Excel 2019** and open an existing workbook already having data **OR** open a new workbook and enter the required data.

Sample Data

	A	B	C	D
1	Date	Product	Region	Sales
2	03-01-2025	Laptop	North	2400
3	05-01-2025	Headphones	South	500
4	06-01-2025	Desktop	East	500
5	01-02-2025	Monitor	North	1000
6	03-02-2025	Keyboard	South	360
7	10-02-2025	Desktop	East	250
8	11-02-2025	Monitor	East	1250
9	02-03-2025	Laptop	North	800

2. Preparing Your Data

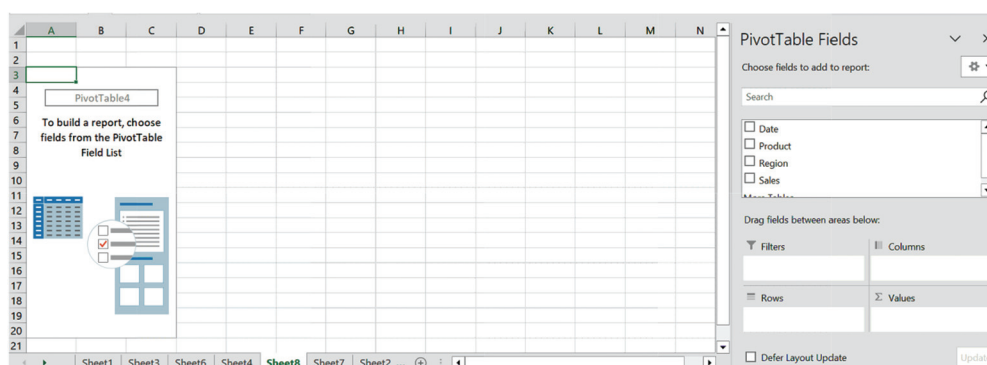
Before creating a Pivot Table, ensure:

- Your dataset has column headers
- No blank rows in the data
- Each column contains consistent data types
- Convert data to a Table for easier updates: Ctrl + T → OK

3. Creating a Pivot Table

- Click any cell inside your dataset
- Go to Insert → Pivot Table
- Choose New Worksheet (recommended)
- Click OK

A blank Pivot Table layout will appear on a new sheet as shown below:





4. Understanding Pivot Table Areas

You will see four areas in the Pivot Table Fields panel:

(a) Rows

Items listed down the left side(e.g., Product names, Employees)

(b) Columns

Items displayed across the top(e.g., Months, Regions)

(c) Values

Where calculations/pivoted data go(e.g., Sum of Sales, Count of Orders)

(d) Filters

A filter that applies to the whole Pivot Table(e.g., Year, Department)

5. Building the Pivot Table

Example: Summarize Sales by Product and Region

- Drag Product → Rows
- Drag Region → Columns
- Drag Sales Amount → Values
- Excel will automatically apply Sum to numeric fields

You now have a table showing total sales per product for each region.

	A	B	C	D	E	F	G	H	I	J	K	L	M
1													
2													
3		Sum of Sales	Column Labels										
4		Row Labels	East	North	South	Grand Total							
5		Desk	750			750							
6		Headphones		500		500							
7		Keyboard		360		360							
8		Laptop	3200			3200							
9		Monitor	1250	1000		2250							
10		Grand Total	2000	4200	860	7060							
11													
12													
13													
14													
15													
16													
17													
18													
19													
20													
21													

6. Changing Calculations (Sum, Count, Average, etc.)

In the Values area, click the drop-down next to the field

Select Value Field Settings



Notes

Choose:

- ☐ Sum
- ☐ Count
- ☐ Average
- ☐ Max/Min
- ☐ % of Total

Click OK

7. Refreshing the Pivot Table

If your source data changes:

Click inside the Pivot Table

Go to Pivot Table Analyze → Refresh (or press Alt + F5)

LEARNER'S OBSERVATIONS

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Instructor's Signature



Practical 25

USE EXCEL-PIVOT CHARTS

OBJECTIVES

After completing this practical, you will be able:

- To learn how to make **Pivot Charts**-to visually present data effectively.

PREREQUISITES

- Pivot table created through previous practical

REQUIREMENTS

- **Hardware:** A Computer System having 1.6 GHz or faster or 2-core processor, RAM 2 GB (32-bit)/ 4 GB (64-bit), storage of minimum 4 GB free disk space
- **Software:** Microsoft Office 2019, Windows Operating System (Windows 10 or later version)
- **Internet Connection:** Required for Software updates

PROCEDURE

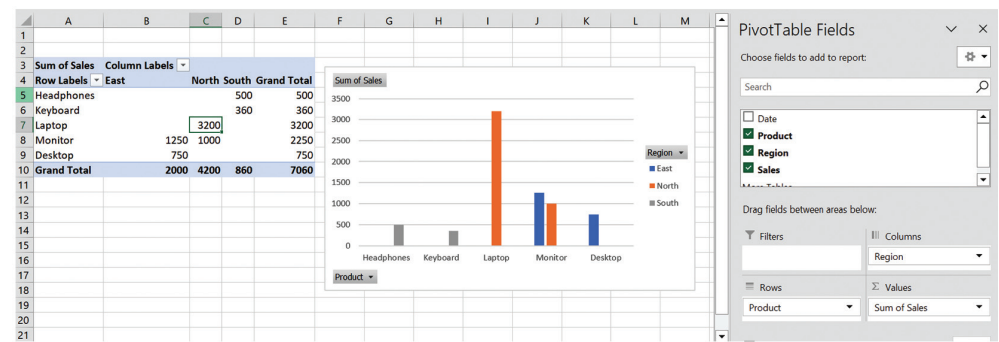
Creating a Pivot Chart

- Select any cell in the Pivot Table
- Go to Pivot Table Analyze → Pivot Chart
- Choose chart type (Column/Line/Pie/etc.)
- Click OK



Notes

Pivot Chart will be created as shown:



Note: The chart updates whenever the Pivot Table does.

LEARNER’S OBSERVATIONS

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Instructor’s Signature



Practical 26

OPEN MICROSOFT POWERPOINT 2019 AND CREATE A NEW PRESENTATION

Open Microsoft PowerPoint 2019, create a new presentation with a minimum of 2–3 slides on the topic “**Save Earth**”. Enter the relevant content, run the slide show, and save it for future use.

OBJECTIVES

After completing this practical, you will be able:

- To learn how to open Microsoft PowerPoint 2019
- To create a new presentation, add slides and relevant content
- To run a slide show
- To save the presentation for later use.

REQUIREMENTS

- **Hardware:** A Computer System having 1.6 GHz or faster or 2-core processor, RAM 2 GB (32-bit)/ 4 GB (64-bit), storage of minimum 4 GB free disk space
- **Software:** Microsoft Office 2019, Windows Operating System (Windows 10 or later version)
- **Internet Connection:** Required for Software updates

PROCEDURE

1. Open Microsoft PowerPoint 2019

Click the **Start** button → type **PowerPoint** → press **Enter** to open it.

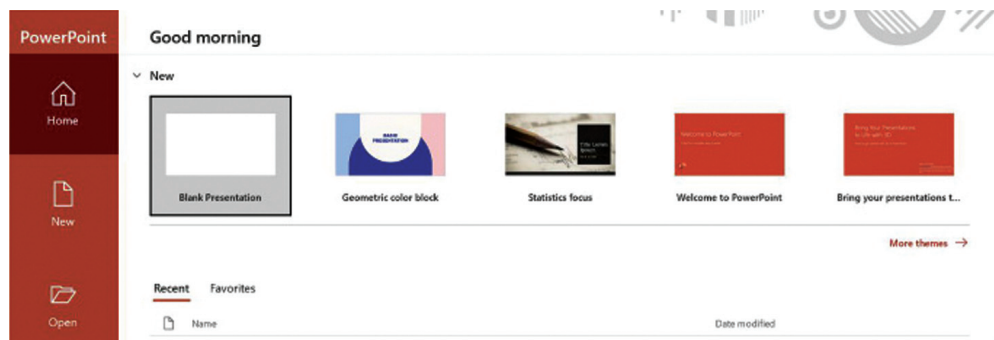


Notes

2. Create a New Presentation

From the **Start Screen**, select a **Blank Presentation**.

A blank presentation will open on the screen, containing a single slide by default, called the Title Slide. This slide uses the default layout, which includes a placeholder for adding a title and another placeholder for adding a subtitle



3. Add Content

Click inside the text boxes to enter your presentation title and subtitle (such as presenter's name, subject, or date).

4. Insert Slides

Home Tab → Click on New Slide (CTRL+M)

A blank slide with the default layout will be inserted.

- Choose slide layouts based on your content.
- Click inside the text placeholders and type the desired content (text, headings, points, etc.).
- Insert images or shapes if required using the **Insert** tab.

Note: Repeat step 4 for adding the desired number of slides

5. Run the Slide show

Slide Show tab → Click **From Beginning** or press **F5** to start the slide show.

6. Save the Presentation

- o Click **File** → **Save As**.
- o Choose a location, enter a file name, and click **Save**.



Notes

7. Close the PowerPoint

- o After saving, click File → Close or press Alt + F4.

LEARNER'S OBSERVATIONS

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Instructor's Signature



Practical 27

OPEN A PREVIOUSLY CREATED PRESENTATION IN MICROSOFT POWERPOINT 2019

OBJECTIVES

After completing this practical, you will be able:

- To learn how to locate and open an existing presentation in Microsoft PowerPoint 2019.
- To review and edit the content of an existing presentation as needed.
- To develop confidence in managing and reopening PowerPoint project files efficiently.

REQUIREMENTS

- **Hardware:** A Computer System having 1.6 GHz or faster or 2-core processor, RAM 2 GB (32-bit) / 4 GB (64-bit), storage of minimum 4 GB free disk space
- **Software:** Microsoft Office 2019, Windows Operating System (Windows 10 or later version)
- **Internet Connection:** Required for Software updates

PROCEDURE

Step 1: Open MS PowerPoint by clicking on the Start button → type **PowerPoint** → press **Enter** to open the program.

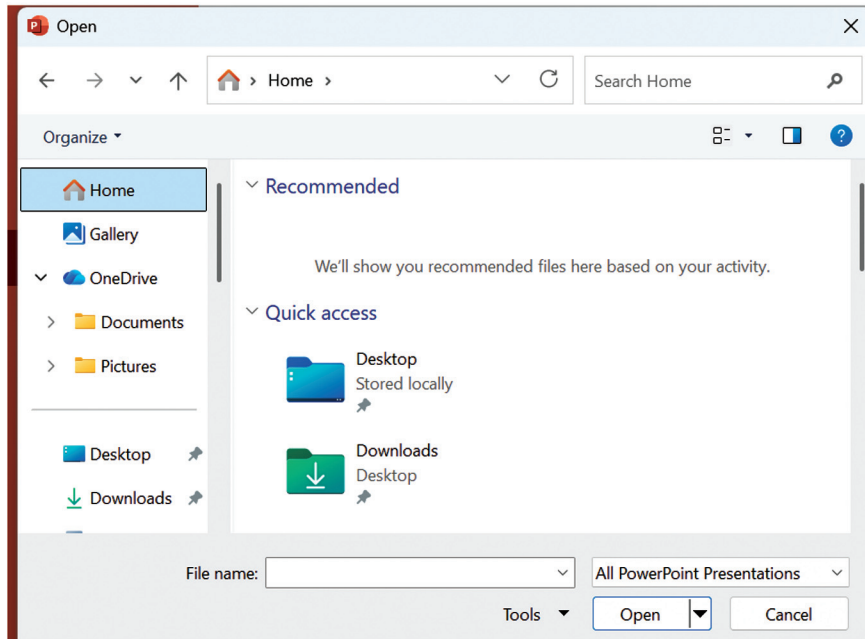
Step 2: Click on the **File** Tab → Click on Open or press **CTRL+O**

Step 3: Choose the Location of the File where your file is saved — for example, **This PC**, **One Drive**, or **Browse** to find it.



Notes

The Open Dialog box will appear as shown:



Step 4: Locate and select the Presentation File by clicking on the desired presentation→Click the **Open** button to open your selected presentation into PowerPoint.

Your presentation will open on the desktop.

LEARNER'S OBSERVATIONS

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Instructor's Signature



Practical 28

FORMAT THE TEXT OF THE PRESENTATION FOR CLARITY AND EMPHASIS AND TO ENHANCE ITS VISUAL APPEAL

OBJECTIVES

After completing this practical, you will be able:

- To learn how to format the text of a presentation for clarity and emphasis
- To improve the overall visual appearance of your presentation

REQUIREMENTS

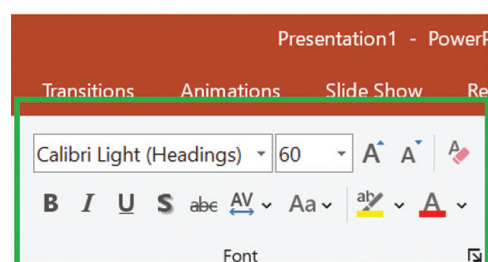
- **Hardware:** A Computer System having 1.6 GHz or faster or 2-core processor, RAM 2 GB (32-bit) / 4 GB (64-bit), storage of minimum 4 GB free disk space
- **Software:** Microsoft Office 2019, Windows Operating System (Windows 10 or later version)
- **Internet Connection:** Required for Software updates
- An existing PowerPoint presentation file

PROCEDURE

Open the presentation in which formatting is required to be done → Select the Text and follow the steps given below as per the requirement:

To change the font style

Home tab → Font group → select the desired font style (like Calibri, Times New Roman) from the Font drop-down arrow.





To change the font size

Home tab → Font group → select the desired font size from the Font size drop-down arrow.

OR

Use the Increase/Decrease Font Size buttons from the Font group.

To change the font color

Home tab → Font group → Font Color drop-down arrow → Select the desired font color from the color palette that appears after clicking on the Font color button

To change the text background (highlight) color

Home tab → Font group → Text Highlight Color drop-down arrow → Select the desired text highlight color from the color palette that appears after clicking on the text highlight color drop-down arrow.

To make the text Bold/Italic/Underline/Text Shadow/Strike through/Character Spacing/Change Case:

Home tab → Font group → Choose the required style.



To apply paragraph formatting like Alignments/Bullets/Numbering.

Home tab → Paragraph group → Choose the required style.



LEARNER'S OBSERVATIONS

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Instructor's Signature



Practical 29

USE THE THEME FEATURE IN POWERPOINT

Use the **Theme** feature in PowerPoint to format an individual slide or the entire presentation at once, for a consistent and professional look.

OBJECTIVES

After completing this practical, you will be able:

- To apply the theme to an individual slide or to an entire presentation
- To change theme variants (colors, fonts, effects)
- To understand how themes affect slide backgrounds, layouts, and formatting
- To maintain consistency across all slides using the Theme feature

REQUIREMENTS

- **Hardware:** A Computer System having 1.6 GHz or faster or 2-core processor, RAM 2 GB (32-bit) / 4 GB (64-bit), storage of minimum 4 GB free disk space
- **Software:** Microsoft Office 2019, Windows Operating System (Windows 10 or later version)
- **Internet Connection:** Required for Software updates
- An existing PowerPoint presentation file

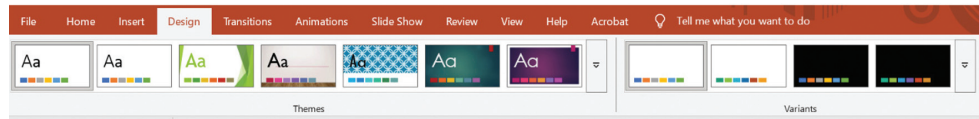
PROCEDURE

Step 1: Open your presentation.

Step 2: Design Tab → Themes group



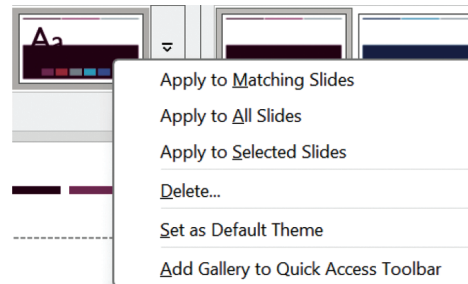
A list of various themes and their variants will appear on the screen, as shown below:



Step 3: Click the desired theme to apply it to your presentation.

By default, the selected theme will be applied to the entire presentation.

To apply the selected theme to an individual slide, select the slide on which the theme needs to be applied → Right click on the desired theme → Select “Apply to Selected Slides” from the Menu options.



The desired theme will be applied to the individual slide or to the entire presentation.

Note: You may use the Variants group (next to Themes) to change color schemes, fonts, or effects of the selected theme.

LEARNER’S OBSERVATIONS

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Instructor’s Signature



Practical 30

CREATE A PRESENTATION BY USING TEMPLATES

OBJECTIVES

After completing this practical, you will be able:

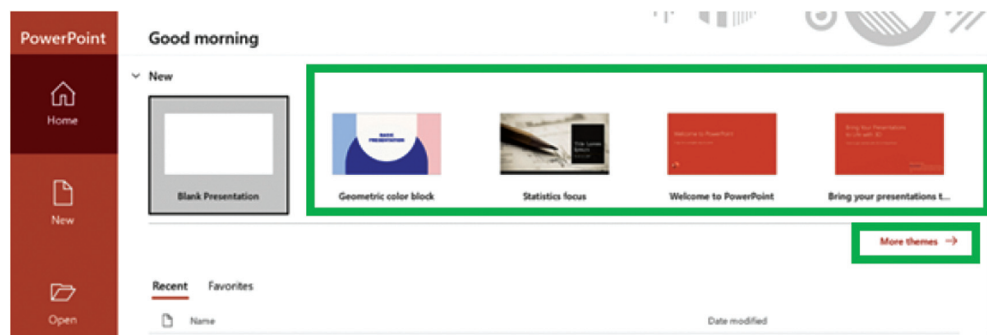
- To understand the purpose and advantages of using templates in PowerPoint.
- To learn how to select and apply built-in templates when creating a new presentation.
- To practice adding and editing content within a template-based presentation.
- To create a consistent and professional-looking presentation using predefined design themes.

REQUIREMENTS

- **Hardware:** A Computer System having 1.6 GHz or faster or 2-core processor, RAM 2 GB (32-bit) / 4 GB (64-bit), storage of minimum 4 GB free disk space
- **Software:** Microsoft Office 2019, Windows Operating System (Windows 10 or later version)
- **Internet Connection:** Required for Software updates
- An existing PowerPoint presentation file

PROCEDURE

Step 1: Click the **Start** button → type **PowerPoint** → press **Enter** to open it.



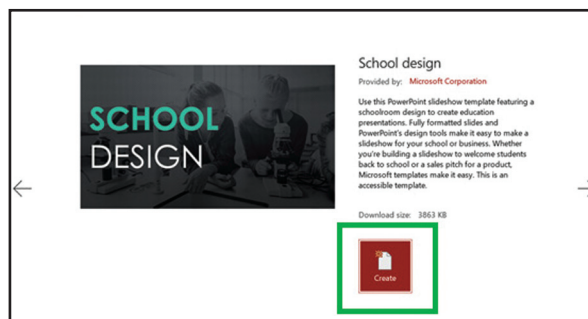
Step 2: From the **Start Screen**, select a desired template by clicking on it.

OR

Click on **More Themes** to find more templates online → Click on the desired template to select it.

The desired template's preview window will appear on the screen as shown below:

Step 3: Click the **Create** button to open a new presentation based on the selected template:



Step 4: Add your content to the pre-formatted slides.

Don't forget to save your presentation to prevent data loss.

LEARNER'S OBSERVATIONS

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Instructor's Signature



Practical 31

INSERTING MULTIMEDIA (PICTURES/ SMARTART/3DMODELS/VIDEO/TABLE/CHART) ON A SLIDE

OBJECTIVES

After completing this practical, you will be able:

- To understand the purpose of inserting multimedia elements in a presentation.
- To learn how to insert pictures, SmartArt graphics, 3D models, Video, Table and Chart onto a slide.
- To enhance the overall effectiveness and appeal of a presentation using appropriate multimedia.

REQUIREMENTS

- **Hardware:** A Computer System having 1.6 GHz or faster or 2-core processor, RAM 2 GB (32-bit) / 4 GB (64-bit), storage of minimum 4 GB free disk space
- **Software:** Microsoft Office 2019, Windows Operating System (Windows 10 or later version)
- **Internet Connection:** Required for Software updates
- An existing PowerPoint presentation file

PROCEDURE

Step 1: Open the presentation in **Microsoft PowerPoint 2019**, and navigate to the **slide** where the multimedia content needs to be added.

Slide's central content area may look like this, as shown here, having six icons to add the following:



- Pictures
- SmartArt Graphic
- 3D Models
- Video
- Table
- Chart

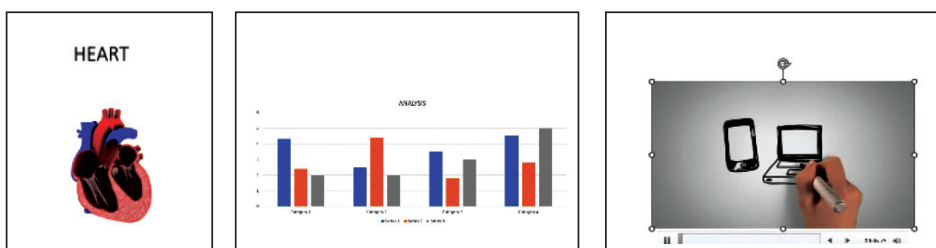


Step 1: Click on the required category.

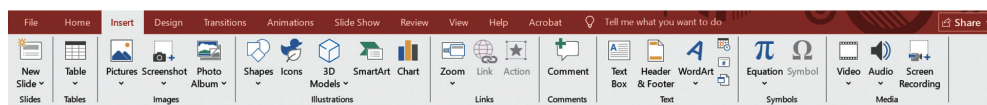
Step 3:

- For adding pictures/Video, select the location of the media→Choose the required media→Click on the **Insert** button.
- For adding SmartArt/Chart, choose the required category of 3D Models→Select the desired 3D Model→Click on the **Insert** button.
- For adding SmartArt/Chart, choose the required style→Click on the **Ok** button.
- For inserting tables, specify the number of rows and columns→Click on the **Ok** button.

The desired media will be added to the Slide.



Alternatively, you may click on the Insert tab on the ribbon and add the desired object as learnt in Lesson 2.





Notes

LEARNER’S OBSERVATIONS

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Instructor’s Signature



Practical 32

APPLYING ANIMATIONS ON THE OBJECT(S) OF THE PRESENTATION IN MICROSOFT POWERPOINT 2019

OBJECTIVES

After completing this practical, you will be able:

- To understand the purpose of applying animations to objects in a presentation.
- To learn how to apply, modify, and remove animations on text, images, and other slide objects.
- To explore different categories of animations such as entrance, emphasis, exit, and motion paths.
- To enhance the clarity and visual appeal of the presentation through meaningful animations.
- To create a more interactive and dynamic slide show using animation techniques.

REQUIREMENTS

- **Hardware:** A Computer System having 1.6 GHz or faster or 2-core processor, RAM 2 GB (32-bit) / 4 GB (64-bit), storage of minimum 4 GB free disk space
- **Software:** Microsoft Office 2019, Windows Operating System (Windows 10 or later version)
- **Internet Connection:** Required for Software updates
- An existing PowerPoint presentation file



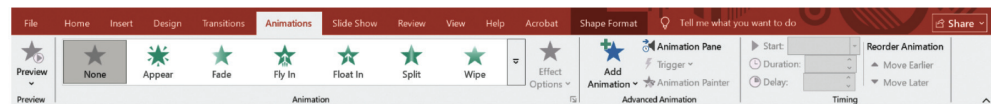
Notes

PROCEDURE

Step 1: Open your presentation in Microsoft PowerPoint 2019 and go to the slide that contains the object (text, image, shape, or chart) you want to animate.

Step 2: Select the object you want to apply the animation to.

Step 3: Click on the **Animations** tab on the Ribbon.



Step 4: From the **Animation** group, choose the desired animation effect from the gallery (e.g., Appear, Fade, Fly In, Float In).

Click on the **More** arrow () to see additional animation options.

Step 5: Select the desired animation effect by clicking on it. An instant preview will play.

OR

Click **Preview** (in the Animations tab) to see how the animation looks on your slide.

The effect will be applied immediately to the selected object.





Notes

Note:

- Use the **Effect Options** button (if available in the selected animation style) to change the direction, sequence, or style of the animation.
- To control when and how the animation plays, use the given options in the **Timing** group:
 - **Start:** Choose *On Click*, *With Previous*, or *After Previous*
 - **Duration:** Set how long the animation lasts
 - **Delay:** Add a delay before the animation starts

LEARNER'S OBSERVATIONS

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Instructor's Signature



Practical 33

APPLYING TRANSITIONS ON SLIDES IN A PRESENTATION

Applying Transitions on slides in a presentation to enhances its visual appeal and capture attention and keep the audience engaged.

OBJECTIVES

After completing this practical, you will be able:

- To understand the purpose of applying transitions in a presentation.
- To learn how to apply, modify, and remove transitions on slides.
- To explore different types of transitions available in PowerPoint.
- To enhance the visual appeal of the presentation by using suitable transitions.
- To capture and maintain audience attention through smooth slide movement.
- To learn how to adjust transition timing and effects for better presentation flow.
- To create an engaging and professional-looking slide show using appropriate transitions.

REQUIREMENTS

- **Hardware:** A Computer System having 1.6 GHz or faster or 2-core processor, RAM 2 GB (32-bit) / 4 GB (64-bit), storage of minimum 4 GB free disk space
- **Software:** Microsoft Office 2019, Windows Operating System (Windows 10 or later version)
- **Internet Connection:** Required for Software updates
- An existing PowerPoint presentation file



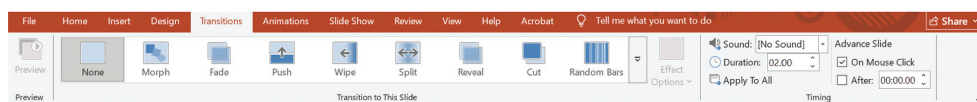
Notes

PROCEDURE

Step 1: Open your presentation in Microsoft PowerPoint 2019.

Step 2: Go to the slide to which you want to apply a transition effect.

Step 3: Click on the Transitions tab on the Ribbon.



Step 4: In the **Transition to This Slide** group, choose a transition effect from the gallery (e.g., Morph, Fade, Push, Wipe). Click the More arrow () to view additional transition options.

Step 5: Use the Effect Options button to modify the direction, style, or variation of the selected transition (for example, from left, right, top, or bottom).

Step 6: In the Timing group, you can adjust:

- Duration: Sets how long the transition lasts.
- Sound: Adds a sound effect to the transition.
- Advance Slide: Choose whether the slide advances *On Mouse Click* or *After a specified time*.

Step 7: Click Preview on the left side of the Ribbon to see how the transition looks.

Step 8 (Optional): To apply the same transition to all slides, click **Apply To All** in the **Timing** group.

LEARNER'S OBSERVATIONS

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Instructor's Signature



Practical 34

TO SET UP A SLIDE SHOW TO PRESENT INFORMATION IN A SEQUENTIAL AND ORGANIZED MANNER

OBJECTIVES

After completing this practical, you will be able:

- To understand the purpose of running a slide show in Microsoft PowerPoint.
- To learn how to start, pause, and end a slide show.
- To present information in a clear, sequential, and organized manner using slide show mode.
- To practice navigating through slides smoothly using keyboard and mouse controls.
- To enhance audience engagement by displaying slides in full-screen view.

REQUIREMENTS

- **Hardware:** A Computer System having 1.6 GHz or faster or 2-core processor, RAM 2 GB (32-bit)/ 4 GB (64-bit), storage of minimum 4 GB free disk space
- **Software:** Microsoft Office 2019, Windows Operating System (Windows 10 or later version)
- **Internet Connection:** Required for Software updates
- An existing PowerPoint presentation file

PROCEDURE

Step 1: Open your PowerPoint presentation.



Step 2: Go to the **Slide Show** tab on the Ribbon.



Step 3: Choose one of the following options to start the presentation:

- **From Beginning:** To start the slide show from the first slide.
- **From Current Slide:** To start the slide show from the slide you are currently on.
- **Custom Slide Show:** To play only selected slides in a defined order.

Step 4: Use the keyboard or mouse to navigate through slides:

- **Next slide:** Click the mouse, press the Spacebar, Enter, Right Arrow, or Down Arrow
- **Previous slide:** Press Backspace, Left Arrow, or Up Arrow

Step 5 (Optional): Press **Esc** to exit the slide show at any time.

Alternatively, you may use the following shortcut keys to start a slide show:

- **F5** → Starts the slide show from the beginning.
- **Shift + F5** → Starts the slide show from the current slide.

LEARNER'S OBSERVATIONS

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Instructor's Signature



Practical 35

TO SET UP PRESENTER VIEW IN MICROSOFT POWERPOINT 2019

To set up Presenter View in Microsoft PowerPoint 2019 to enable slide navigation controls without affecting the audience's view and to improve overall presentation delivery through smoother transitions and better control.

OBJECTIVES

After completing this practical, you will be able:

- To understand the purpose and advantages of using Presenter View in PowerPoint 2019.
- To learn how to preview upcoming slides using Presenter View.
- To explore slide navigation tools available in Presenter View.
- To improve presentation delivery by managing timing, transitions, and flow effectively.
- To gain confidence in controlling a slide show without affecting what the audience sees.

REQUIREMENTS

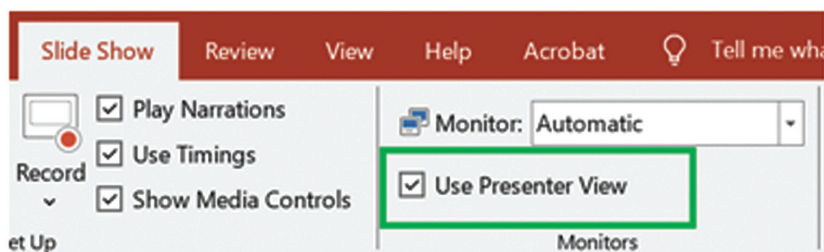
- **Hardware:** A Computer System having 1.6 GHz or faster or 2-core processor, RAM 2 GB (32-bit) / 4 GB (64-bit), storage of minimum 4 GB free disk space
- **Software:** Microsoft Office 2019, Windows Operating System (Windows 10 or later version)
- **Internet Connection:** Required for Software updates
- An existing PowerPoint presentation file



Notes

PROCEDURE

To use Presenter View in PowerPoint 2019: Connect your computer to a secondary display or projector.



1. Go to the **Slide Show** tab.
2. Check the box “Use Presenter View.”
By default, it will be checked.
3. Start the slide show (**F5** or **Shift + F5**).
4. On your screen, you’ll see **Presenter View**, while the audience sees only the slides.

LEARNER’S OBSERVATIONS

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Instructor’s Signature



Practical 36

CREATE A DOCUMENT WITH GIVEN TEXT USING MS-WORD OR GOOGLE DOCS

OBJECTIVES

After completing this practical you will be able to:

- Develop proficiency in creating, editing and proofreading in MS Word.
- Produce a text document which is error free with desired structure.
- Create a digital document which can be shared through mail or any other online platform.

PRE-REQUISITE

- You should know how to open a blank document in MS-Word / Google Docs.
- You should have basic data entry and formatting knowledge of text in MS-Word / Google Docs
- You should know how to save a document.

HARDWARE/SOFTWARE REQUIRED

- A working Desktop / laptop computer either with MS-Word 2019 or access to Google sheets.

PROCEDURE

1. Open a new document in MS Word
2. Set Font to “Calibri” and size to “12”.
3. Start typing the given text



Notes

Title: The value of Good Typing skills

In today's digital world, typing is one of the desired skills for students. When you can type fast and accurately, you save on time and complete your work more efficiently. *Typing also improves the way you prepare your assignments/ reports and their presentation.*

Students who practice typing regularly are able to focus on ideas, rather than on pressing the keys. Good typing habit reduces spelling mistakes made while typing. They also help in saving time while taking computer based tests/ exams.

While learning typing, always sit straight and keep your fingers on the home row keys. Do not look at keyboard; instead condition your eyes to remain on screen. At first, you may find it difficult and your speed will get affected, but with practice, you will improve. Its accuracy which is more important than speed in the beginning.

In the future, almost every career will require computer knowledge. Typing is a foundation skill that supports writing, communication and data entry. The earlier you learn, the greater your advantage. So, start today and make typing a daily habit.

4. Format "Title" of the text.
5. Save your work in a file and name it "Typing Skills".

Dos/Don'ts:

- Try and train your eyes on screen while typing.
- Don't forget to apply various text formats as shown in ample.

LEARNER'S OBSERVATIONS

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Instructor's Signature



Practical 37

DATA STRUCTURING USING MS EXCEL. ENTER, FORMAT AND ORGANIZE DATA IN SPREADSHEETS

OBJECTIVES

After completing this practical you will be able to:

- Organize data in rows and columns,
- Apply various format on data values.
- Quickly grasp and compare data values
- Easily identify patterns, trends, and relationships in data values.
- Manage data by sorting and summarizing it.

PRE-REQUISITE

- You should know how to open a blank document in MS-Excel/Google Sheets.
- You should have basic data entry and formatting knowledge of text in MS-Excel/Google Sheets.
- You should know how to save a document.

HARDWARE/SOFTWARE REQUIRED

- A working Desktop/laptop computer either with MS-Excel 2019 or access to Google sheets.

PROCEDURE

1. Refer to **Annexure 2 (Flight Details)** of text book for the data



Notes

2. Open a new spreadsheet file in MS Excel / Google sheets.
3. Type first 50 rows of data in **Sheet 1**.
4. Bold all column headings
5. Apply appropriate format to text and numeric data to create a copy of **Flight Details**.
6. Change the name of **Sheet 1** to **Airlines**.
7. Save your work in the file for future reference.

Dos/Don'ts:

- Use same format of data throughout column, e.g. for arrivals and departures use **yyyy/mm/dd** format for date and **hrs:min** format for time.
- Do not leave blank rows while entering data
- Format cells properly.

LEARNER'S OBSERVATIONS

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Instructor's Signature



Practical 38

CONVERTING A HAND-WRITTEN LETTER TO EDITABLE DIGITAL DOCUMENT, USING SCANNER AND OCR

OBJECTIVES

After completing this Activity you will be able to:

- Learn to convert a physical record to editable digital record.
- Preserve physical record by protecting it from physical damage.
- Organize properly by categorizing it, for faster access.
- Quickly and conveniently share the physical document with others.

ACTIVITY

Ms Garima found an incomplete list of steps which can be used to convert a physical document to digital form. She want to use them for converting hand-written letters received from her father. Help her in doing so by writing the missing steps/fill-in the gaps required for conversion.

Step 1. Take the and place it on flat surface.

Step 2.

Step 3. Save the image as

Step 4.

Step 5. Review the converted letter for clarity of text.

Step 6. Edit the document to correct any unrecognized letter.

Step 7.

LEARNER'S OBSERVATIONS

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Instructor's Signature



Notes



Practical 39

CONVERTING “TYPINGSKILLS.DOCX” FILE, CREATED IN PRIOR PRACTICAL, TO PDF FORMAT USING EXPORT OPTION OF MS-WORD

OBJECTIVES

After completing this practical you will be able to make a document:

- Which is universally compatible and shareable
- Which preserves formatting on all devices.
- Which is widely used to present reports, official documents, etc.

PRE-REQUISITE

- You should have basic knowledge of creating and saving files in MS-Word.

HARDWARE/SOFTWARE REQUIREMENTS

- Desktop/laptop computer
- MS-Word software

PROCEDURE

1. Start MS-Word
2. Open file “TypingSkills.docx”
3. Go To **File → Export → Create PDF** document
4. Choose location to save file
5. Click on “Publish”



Notes

Dos/Don'ts

- Do check docx file for correctness, before conversion.
- Do check the pdf file on other device after conversion

LEARNER'S OBSERVATIONS

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Instructor's Signature



Practical 40

CREATING AND ORGANIZING FILES AND FOLDERS ON THE COMPUTER

OBJECTIVES

After completing this practical you will be able to:

- Save time in searching files
- Quickly locate specific documents, notes, etc.
- Avoid creating duplicate files, hence improve data integrity
- Streamline backup of files.

PRE-REQUISITE:

- You should have permission to create folders on the computer
- You should have basic knowledge of using file explorer.

HARDWARE/SOFTWARE REQUIREMENTS:

- Desktop/laptop computer

PROCEDURE

1. Create a Folder, this will be main folder to hold sub-folders and files. Name it “DigiMitraWork”
2. Inside “DigiMitraWork” create sub-folders
 - Spreadsheet
 - Presentation
 - Practical Work.



Notes

3. Adding files to the folders / sub-folders

- (a) Move “TypingSkills.Docx” to “Practical Work” folder
- (b) Add file names from lesson 2,3 and 4 in this area.

Dos/Don’ts

- Use clear and descriptive names of files
- Include topic/date or any other identification in the file name.
- Do not use blank spaces or special characters while naming the file. To distinguish two words in file name use underscore (_) or hyphen (-).
- Maintain consistency while naming files.

LEARNER’S OBSERVATIONS

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Instructor’s Signature



Notes

Practical 41

DEMONSTRATING USAGE OF ONLINE STORAGE PLATFORM

Demonstrating Usage of online storage platform – Google Drive, for anywhere access, easy sharing and creating backup.

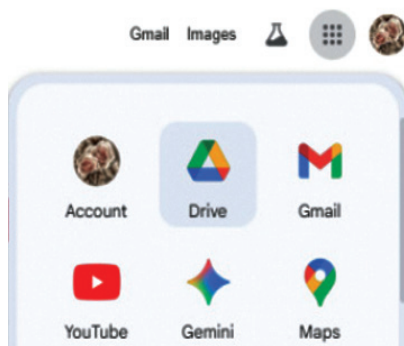
OBJECTIVES

After going through this demonstration, you will be able to:

- Upload a file from local computer to google drive
- Share a file with multiple users and
- Protect your work from loss due to device failure
- Access your files anytime from anywhere.

ACTIVITY

Login to gmail account (i) use grid icon  the top-right of the page (ii) select Drive icon .

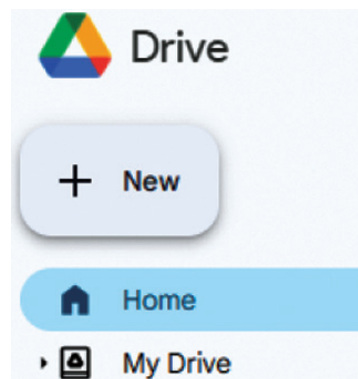


OR

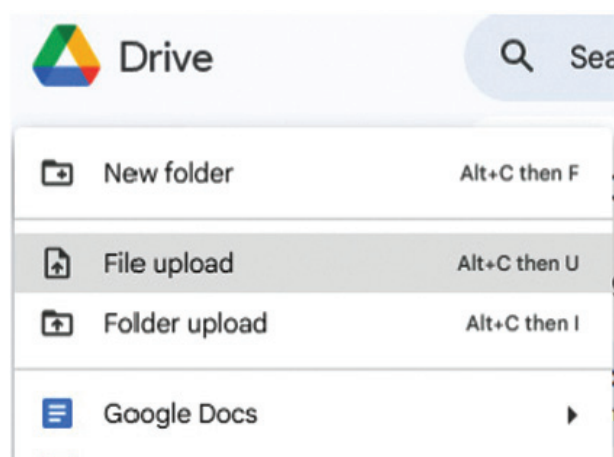
Go to **drive.google.com** in the browser and sign-in the account.

To Upload a file:

1. To upload file, from local computer – click on **New button** at the top-left side of the page



2. Select **File Upload**, from drop-down menu, to choose a file from local disk.



3. A window will open allowing you to **choose a file** for uploading.
4. Select the file and click the **Open** button to start uploading.



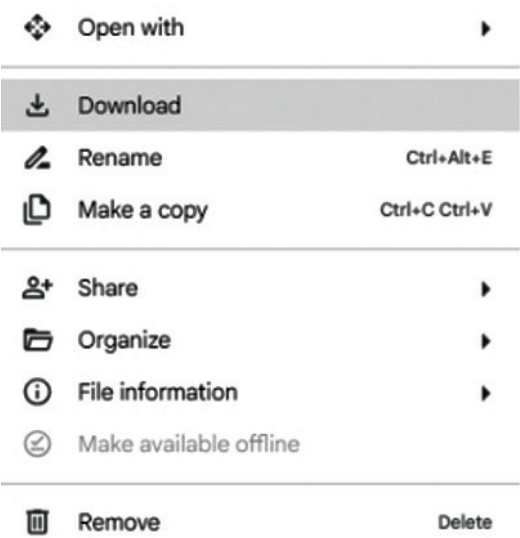
Notes



Notes

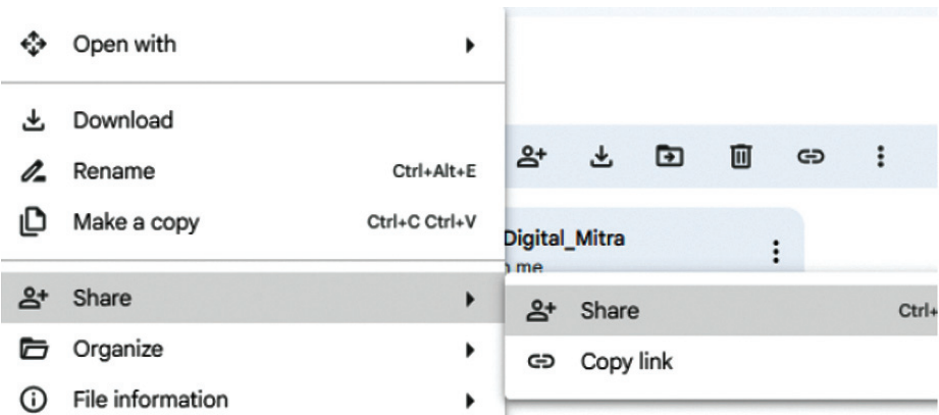
To Retrieve/download a file

- 1. Click on the file you want to download
- 2. Right-click on the file
- 3. Select – **Download**, from the context menu



To share a file

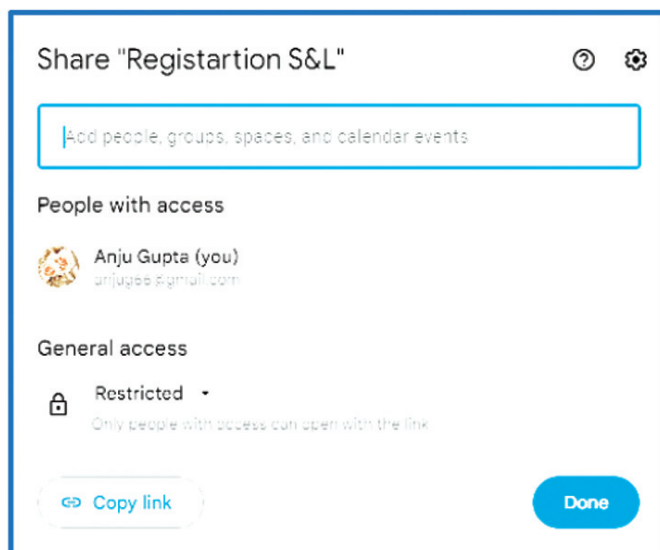
- 1. Click on the file you want to share
- 2. Right-click on the file
- 3. Select – **Share**, from the context menu





Notes

- Clicking on **Share** in next menu will open a window in which you add the mail-id of people who are allowed to access the file.



LEARNER'S OBSERVATIONS

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Instructor's Signature



Notes

Practical 42

ARCHIVING IMPORTANT MAILS FOR FUTURE REFERENCE AND RETRIEVING THEM

OBJECTIVES

After going through this demonstration, you will be able to:

- Organize email communication
- Securely storing emails for longer duration.
- Quickly locate and retrieve specific email or attachment using filters.
- Protect sensitive data from accidental deletion.

PRE-REQUISITE

- You should have a working Gmail account

HARDWARE/SOFTWARE

- Desktop/laptop with Internet connection

PROCEDURE

Open your Gmail account

Archive email(s)

1. Select the email(s) you want to archive. For selection **check the box** next to the mail
2. Click the **Archive** button at the top of the Gmail interface. This will remove the mail(s) from Inbox, but they are available in **All Mail**

Note: after selecting the email, pressing E will archive them immediately.



Notes

Retrieving Archived Emails

1. To find archived Email(s), click **More** in the left-hand sidebar.
2. Select **All Mail**. You will get all the mails on screen including Archived ones.
Alternatively :In the search bar type **in:archive**. You get only archived mails.
3. to move back archived mail in Inbox, after locating them on screen (using All Mail), check the box next to it.
4. Click **Move to Inbox** at the top.

LEARNER'S OBSERVATIONS

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Instructor's Signature



Practical 43

CURATING DATA TO GET A STRUCTURED AND ORGANIZED DATASET

OBJECTIVES

After completing this practical you will be able to create a dataset:

- in a predefined systematic format to support faster data retrieval and integration across different business systems.
- to improve its quality and reliability
- that assist in faster and accurate processing and analysis

PRE-REQUISITE

- ability to identify relevant data sources
- familiarity with MS-Excel.

HARDWARE/SOFTWARE

- desktop/laptop computer with MS Excel 2019 or above.

Data: “ABC” company manufactures certain parts. Given is the production data generated for twenty days, one record per line. The values are separated by comma. Header row (first row of data) contains the description collected of data values.

Date, Product_ID, Product_Name, Units_Produced, Units_Defective, Machine_ID, Shift, Operator, Energy_Consumption_kWh, Downtime_Minutes

06/01/2025, P006, Bearing, 818,40,M03, Evening, Anil, 469, 118

03/01/2025, P003, Screw, 1365, 5, M04, Evening, Meena, 180, 20



20/01/2025,P020,Bolt,1598,6,M01,Night,Suman,178,39
 01/01/2025,P001,Bearing,826,7,M02,Night,Anil,250,47
 07/01/2025,P007,Valve,940,39,M03,Night,Meena,468,67
 17/01/2025,P017,Nut,588,18,M01,Evening,Arjun,359,112
 08/01/2025,P008,Bolt,1189,23,M03,Morning,Priya,234,117
 04/01/2025,P004,Nut,1196,35,M01,Morning,Arjun,332,69
 15/01/2025,P015,Bearing,1736,14,M04,Evening,Meena,252,118
 09/01/2025,P009,Washer,709,36,M01,Evening,Suman,356,0
 13/01/2025,P013,Bolt,1235,2,M02,Morning,Priya,154,2
 02/01/2025,P002,Bolt,1929,24,M02,Night,Suman,322,97
 05/01/2025,P005,Bearing,1069,18,M02,Night,Anil,101,99
 18/01/2025,P018,Gear,1994,5,M02,Evening,Meena,411,106
 12/01/2025,P012,Gear,698,4,M01,Morning,Ravi,359,62
 11/01/2025,P011,Nut,1278,45,M03,Evening,Suman,191,41
 14/01/2025,P014,Nut,1204,42,M02,Night,Arjun,420,14
 16/01/2025,P016,Gear,1041,49,M03, Night,Anil,427,46
 10/01/2025,P010,Bolt,689,12,M03,Night,Priya,490,76
 19/01/2025,P019,Pipe,1440,14,M04,Evening,Meena,201,103

PROCEDURE

Data Entry

1. Open a new worksheet in MS Excel.
2. Enter data collected from “ABC” manufacturing company.
 - 2.1 Make header entries in Row 1 of the sheet
 - 2.2 Enter remaining records starting from Row 2.
3. Complete data entry and save it in a file named “manufacture.xls”



Notes

Organizing Data

- 1. Select all data values, including header row.
- 2. Go to **Data** tab in Ribbon.
- 3. Click **Sort** option
 - 3.1 Check on **My data has headers**, if it is not already checked.
 - 3.2 In Column Sort by drop-down list, select **Date**
 - 3.3 In Sort On drop-down list, select **Values**
 - 3.4 In Order drop-down list, select **Oldest to Newest** (for ascending order of date)

LEARNER’S OBSERVATIONS

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Instructor’s Signature



Practical 44

GENERATING MIS REPORT USING DATA ANALYTICS TOOLS OF MS EXCEL

OBJECTIVES

After completing this practical you will be able to:

- Provide accurate and timely information to decision makers.
- Present complex data in simple understandable form
- Maintain systematic documentation of operations for long term.

PRE-REQUISITE

- Familiarity with data analysis tools of MS Excel
- You should be able to clean data if required and format it properly.

HARDWARE/SOFTWARE REQUIREMENT:

- Desktop computer with MS Excel
- “Manufacture.xls” file curated in previous practical.

PROCEDURE

To produce a report on “shift-wise production” and represent data in a chart.

1. Open file “Manufacture.xls” in MS Excel
2. Create a Pivot table
 - 2.1 Select anywhere inside data
 - 2.2 Go to **Insert tab** → **Pivot table**
 - 2.3 Choose **New worksheet** and click **OK**



Notes

3. Creating Report
 - 3.1 Drag **Shift** to Rows
 - 3.2 Drag **Units-Produced** to Values
4. Adding Chart
 - 4.1 Go to **Insert → Column Chart** (bar) → **Choose Style**
5. Customize Chart
 - 5.1 Add Title “Total Production by Shift”
 - 5.2 Add Labels etc. of your choice

LEARNER’S OBSERVATIONS

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Instructor’s Signature



Practical 45

CREATING A SIMPLE DATA BACKUP AND RECOVERY PLAN

Creating a simple Data Backup and Recovery Plan for safeguarding important information of an Organization.

OBJECTIVES

After completing this activity you will be able to:

- Support in protecting critical business files, documents, etc.
- Help restore lost / damaged data quickly to minimize downtime and financial losses.
- Enable the organization to continue its essential operations even after virus attack, system crash or natural disaster.

INFORMATION FOR DATA BACKUP

1. Identify the type of data – Critical, Important and General, for the organization's perspective.

Type of data	Example
Critical	Client Data, Financial Records, HR Files, Business Plans, Communication History, etc.
Important	Project Files, Reports, Application files, databases, etc.
General	Reference data, less-important emails, Archives, any other documents.

2. Frequency of data backup. For Critical data it may be daily, for Important may be weekly and for general may be monthly.



Notes

Practical Manual

- Location of keeping backup – Cloud server, External storage device or Network Attached Storage (NAS), Local server. To provide a reliable backup, usually multiple copies of data are kept on different storage media. Out of these one copy is stored on a different site.

Information for data Recovery

- In case of loss of data, identify what data or system got affected? Does it affect single user or entire system?
- Inform Key people listed in the recovery process document. During recovery process also keep employees informed.
- Always restore most critical data first. This will minimize the downtime of your system.
- Identify the backup source having most recent backup of affected data. As the local backup device will allow fast recovery use it to retrieve data, whenever possible.
- After complete recovery, do analyze w.r.t. (i) what happened (ii) how long the recovery took (iii) lesson learnt to improve backup / recovery plan.

ACTIVITY

Fill in the blanks to complete the given backup and recovery plan, created for a small business

Data Type	Backup Location	Importance/Type of Data	Backup Frequency
Financial Records		Critical	
Employee records	Local server/ External drive		
Website Data			weekly
Customer Data		Critical	Daily
Project Documents	Cloud server	Moderate	

RECOVERY

- Identify the
- The most recent backup
- data from the backup

4. Check data for
5. The incident and Taken.

LEARNER'S OBSERVATIONS

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Instructor's Signature



Notes



Practical 46

DEMONSTRATION OF THE PROCESS OF CLEARING CACHED DATA AND TEMPORARY FILES TO ENHANCE SYSTEM PERFORMANCE

OBJECTIVES

After going through this demonstration you will be able to

- Free disk space of the HDD of your computer
- Improve performance of the system
- Resolve website loading issues or application glitches faced while browsing websites.
- Prevent data conflicts, if any, on your computer.

ACTIVITY

Information

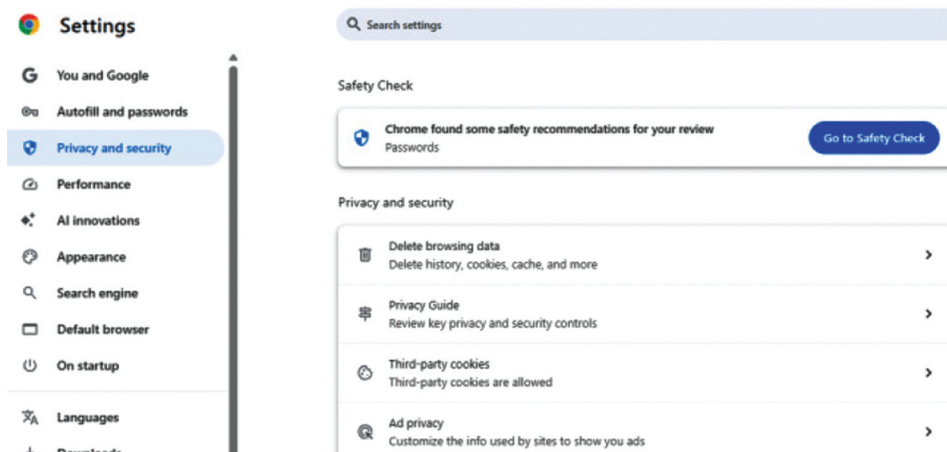
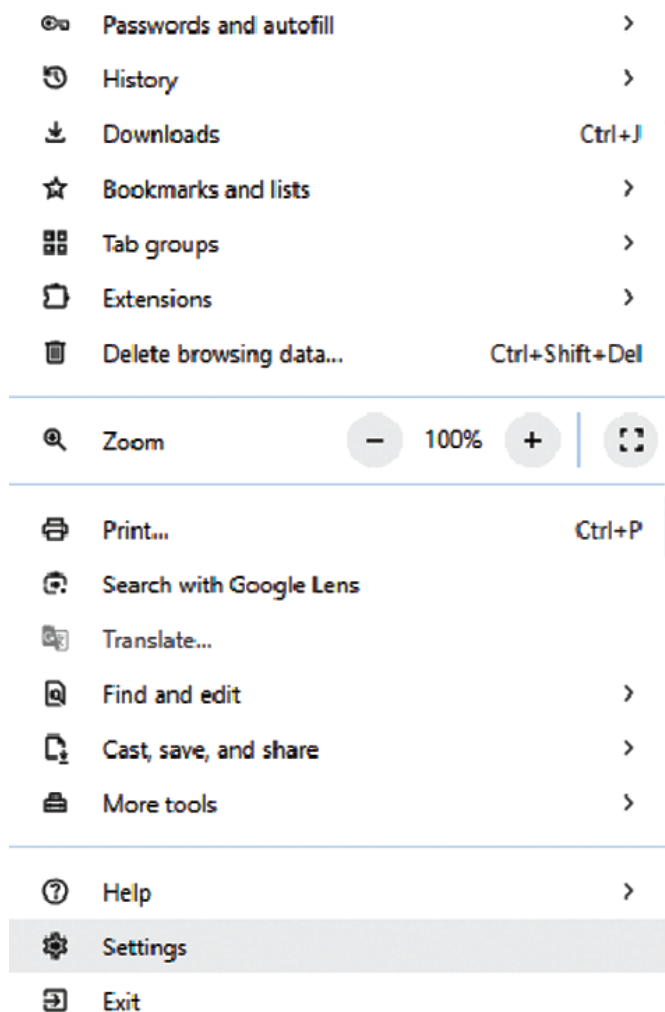
- Cached files are generated by Applications, Browsers or the OS to speed up retrieval of frequently accessed data on the computer.
- Temporary files are created during Software installation/updates or while running Programs/Apps. These get accumulated in system folder.

Clearing Cache

1. Open the browser and click on the three dots  on the top-right of the screen, to open dropdown menu
2. Go to **Settings → Privacy and Security**



Notes

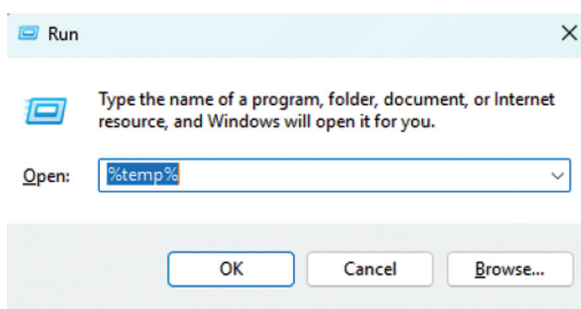




3. Select **Delete browsing data**, to remove cached files and cookies.

Clearing Temporary files manually

1. Press **Windows Key + R** to open Run dialog box.
2. In the dialog box, type **%temp%** and press **OK** OR press **Enter** key. This will open the Temp folder, which stores temporary files.



3. Select the files to be deleted. You may use **Ctrl+A** to select all files

Name	Date modified	Type	Size
(C8C5A771-D5D1-4123-A28D-D9A5D379...	09/10/2025 18:35	File folder	
(C24BC315-A21A-4085-A4D9-0E24033B7...	29/09/2025 16:14	File folder	
(E0F94603-0E91-458E-8802-C5547A8DC1...	01/10/2025 18:10	File folder	
acrobat_sbx	03/10/2025 17:19	File folder	
collab_low	09/10/2025 18:42	File folder	
1a35e63f-ee5a-404a-bcfc-cdcccff6244d1.t...	09/10/2025 18:38	TMP File	0 KB
1ae79304-e023-4ef8-bd39-445623c34751...	09/10/2025 18:37	TMP File	0 KB
2b2c7dba-a077-408e-b3c6-e34df40f7f8c...	09/10/2025 18:38	TMP File	0 KB
5a0bc7c6-3e82-4d4b-afbe-94aba4702c30...	09/10/2025 18:39	TMP File	21 KB
8dc1ed24-5654-411a-9dac-78cf71f3308a...	09/10/2025 18:38	TMP File	0 KB
a7e07913-26e6-4ebe-91cf-3e94f4bf8b33.t...	09/10/2025 18:47	TMP File	65 KB
c78a5b93-4db9-490d-9bec-af9433ef2fb8...	09/10/2025 18:39	TMP File	3,429 KB
f707f977-fb3d-44d5-a1b5-621f5f064990.t...	09/10/2025 18:39	TMP File	560 KB
xml_file (2).xml	09/10/2025 18:59	Microsoft Edge H...	0 KB
xml_file (3).xml	09/10/2025 19:00	Microsoft Edge H...	0 KB

4. Press **Delete** key, then confirm if prompted. There might be some temporary files in use, for which you will be prompted. Take appropriate action on the prompt window

LEARNER'S OBSERVATIONS

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Instructor's Signature



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Practical 47

ESCALATING A TECHNICAL ISSUE OF A PRINTER IN THE ORGANIZATION

OBJECTIVES

After going through this Activity, you will be able to:

- Apply appropriate communication method(s) when troubleshooting a technical issue
- Use proper terminology and provide sufficient details for effective troubleshooting
- Document technical problem accurately through reporting format.
- Understand the importance of effective escalation process.

ACTIVITY

Following is an Escalation report, initiated by Mr. Murli Kumar, Office Assistant of Administration Dept. He has identified a problem with a network printer being used in his department. Complete the report by filling the blank spaces.

TECHNICAL ISSUE ESCALATION REPORT

Date: 10/01/2025

Reported by: , ,

Email id: mk.admin@xyz.ab

Issue ID:

Summary of Technical Issue



Issue: Printer attached to a computer,..... It shows “Network Connection Error” on display.

Product: HP Laserjet3100, in the Administration Department

Impact:

Priority: Medium

Trouble shooting steps taken

- Checked power supply –
- Restarted Printer – issue remains
- Verified cable connection – connected properly
- Tried from another computer – issue remains

Issue reporting date & Time

First reported on: 9/01/2025 at 2.30 pm

Reason for escalation: The issue could not be resolved at the
Printing task are pending and this is in the department.

Request for Action: Request IT team to check printer setting and
restore

Reported by

Signature :

Murli Kumar

LEARNER’S OBSERVATIONS

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Instructor’s Signature



Practical 48

GENERATING A MIS REPORT AND GRAPH USING PIVOT TABLE OF MS EXCEL FOR SIMPLIFIED DATA UNDERSTANDING

OBJECTIVES

After completing this practical you will be able to:

- Provide accurate and timely information to decision makers.
- Present complex data in simple understandable form
- Maintain systematic documentation of operations for long term.

PRE-REQUISITE

- Familiarity with data analysis tools of MS Excel
- You should be able to clean data if required and format it properly.

HARDWARE/SOFTWARE REQUIREMENT

- Desktop computer with MS Excel
- “Manufacture.xls” file curated in previous practical.

PROCEDURE

To produce a report on “Energy Consumption over Time” and represent data in a chart.

1. Open file “Manufacture.xls” in MS Excel
2. Create a Pivot table
 - 2.1 Select anywhere inside data



- 2.2 Go to **Insert tab → Pivot table**
- 2.3 Choose **New worksheet** and click **OK**
3. Creating Report
 - 3.1 Drag **Date** to Rows
 - 3.2 Drag **Energy_consumption_kWh** to Values
4. Adding Chart
 - 4.1 Go to **Insert →Line Chart.**
5. Customize Chart
 - 5.1 Add Title “Energy Consumption Trend”
 - 5.2 Add Labels etc. of your choice

LEARNER’S OBSERVATIONS

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Instructor’s Signature



Practical 49

TROUBLESHOOTING COMMON ERRORS IN PIVOT TABLE FUNCTIONS AND VERIFY ACCURACY

OBJECTIVES

After completing this practical you will be able to:

- Identify the common Pivot table errors such as missing data, incorrect calculations, etc.
- Apply appropriate troubleshooting step(s) to fix issues.
- Recognize causes of calculation errors.
- Ensure accurate data analysis.

PRE-REQUISITE

- Working knowledge of Pivot Tables in MS-Excel.
- “manufacture.xls” created while Data Curating exercise.

HARDWARE/SOFTWARE :

- Desktop/laptop with Ms-Excel 2019 or above

PROCEDURE

Fixing “Incorrect totals” in the pivot table using “manufacture.xls”

1. Open “manufacture.xls” file.
2. Change values in cells I7, I15 and I19 to 400, ‘450, ‘423.
3. Generate pivot table, to find Energy Consumption over Time.



4. Compare current table with the one created in prior practical.
5. Ensure numeric column doesn't contain text data.
6. Rectify entries done in cell I15 and I19.
7. Recreate Pivot table.

Fixing issue of "Appearance of old data" after data update

1. Open sheet containing Pivot Table
2. Select a cell in the table and open context menu
3. Click on the Refresh the Pivot table option.

Fixing "New Data not Appearing" issue

1. Reselect the range of data for creating Pivot table.
2. Create Pivot table.

Alternatively using Ctrl+T will create a table of the selected range. Now use this new table instead of range of cell.

LEARNER'S OBSERVATIONS

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Instructor's Signature



Practical 50

MANAGE TWO-FACTOR AUTHENTICATION (2FA) FOR YOUR GMAIL ACCOUNT

OBJECTIVES

After completing this practical you will be able to:

- Check whether 2FA has been enabled for your gmail account
- If not, enable it.

REQUIREMENTS

- Digital device with an Internet connection.
- Activated gmail account

PROCEDURE

1. Login to your gmail account using user id and password.
2. Click on your profile picture and click on **Manage Your Google Account**. Alternatively, type <https://myaccount.google.com/> on the address bar.
3. In the left sidebar, click **Security** option. The Security Tab will be opened.
4. In the section – **How to Sign in to Google**, check for **2-step verification**. If it is ON, 2FA is already enabled.
5. If it is not enabled, turn it on. You will be asked for the method to be followed for 2FA, such as authenticator app, SMS, or Google Prompt. Select the desired method.
6. You may also select the **Passkeys and Security Keys** option to set up the same for your gmail account.
7. Close the Security Tab by clicking on **X** button on top right hand corner.

LEARNER’S OBSERVATIONS

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Instructor’s Signature



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Practical 51

USE PASSWORD MANAGERS TO SAVE YOUR PASSWORDS

OBJECTIVES

After completing this practical you will be able to:

- Use a password manager application to save your passwords.

REQUIREMENTS

- Digital device with any password manager application installed on it. Alternatively, you may use any online application, for which you need the device with an Internet connection.

PROCEDURE

1. Sign in to any password manager application or website.
2. Create a master password for your vault. This is the only password that you will have to remember. Make sure that it is a strong password that is 12-16 characters long and contains alphabets, digits, and special characters. **DO NOT USE** this master password anywhere else.
3. Login into any of your accounts. The password manager will ask if your want to save this password. Click yes, to save the password for the password for the current application to your vault.

LEARNER'S OBSERVATIONS

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Notes

Instructor’s Signature



Practical 52

UPDATING THE DIGITAL DEVICE

OBJECTIVES

After completing this practical you will be able to:

- Update the operating system or any other software on your digital device.

REQUIREMENTS

- A Digital device with original operating system/application.

PROCEDURE

To update On a Windows PC.

1. Click **Start** menu and select **Settings** option.
2. Click **Windows Update** from the left hand side pane.
3. Click **Check for Updates** option.
4. If updates are available, click **Install** option.
5. To update a particular app, open the application, go to App **Settings** and click- **Check for Updates** option.
6. Click **Get Updates** option.
7. Restart your PC.

Note: The update procedure may vary for other operating systems such as Apple iOS and Android. For all operating systems/applications, one needs to search for Software Update option in the Settings menu.



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Notes

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Practical 53

UPDATE YOUR ADDRESS USING THE AADHAR SELF SERVICE ONLINE PORTAL.

OBJECTIVES

After completing this practical you will be able to:

- Update your address on Aadhar Self Service portal.

(Please note that one can only update the address through this online portal. For updating gender, mobile phone, date of birth or any biometric data, one must go to Aadhar Enrolment/Update Centre near your home.

REQUIREMENTS

- A Digital device with an Internet connection.

PROCEDURE

1. Visit the official UIDAI website, <https://myaadhaar.uidai.gov.in/>
2. Click on **Login** option in **My Aadhar** section.
3. Enter your Aadhar number.
4. An OTP will be sent to your registered mobile number. Enter the OTP to complete the login process.
5. From the login page/dashboard, select **Update Address Online** option. You may update address using any of the following options:
 - (a) **Update Address via valid documents.** For this you will have to upload the scanned copy of any of your address proof document such as Passport, Voter Id, Electricity Bill, Bank Statement, etc.



Notes

- (b) **UpdateAddress via validation letter.** For this, you will have to use the Aadhar card of the person who is verifying your address.
6. Submit the request and note down the **Update Request Number (URN)**. You can use this to track your update status.

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Notes

Practical 54

UPDATE YOUR PAN CARD DETAILS ONLINE

OBJECTIVES

After completing this practical you will be able to:

- Update your details in the PAN card.

REQUIREMENTS

- A Digital device with an Internet connection.

PROCEDURE

1. Visit the PAN Service Portal (<https://www.pan.utiitsl.com/>), that is the official website for updating the PAN Card.
2. Click on **Change/Correction** in PAN card option.
3. Fill the details carefully in the online form.
4. Upload the required documents.
5. Pay the applicable fee through any digital means.
6. Click **Submit** option to submit your application.
7. Note down the **Application Coupon Number** to track the status of your application

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Practical 55

APPLY FOR PASSPORT THROUGH ONLINE PORTAL

OBJECTIVES

After completing this practical you will be able to:

- Apply for passport
- Apply for renewal of your passport

REQUIREMENTS

- A Digital device with an Internet connection.

PROCEDURE

1. Visit <https://www.passportindia.gov.in>, the official website for applying for passports by Ministry of External Affairs, Government of India.
2. Click **Register** button on top right corner to register on the Passport Seva Portal.
3. Select the Passport Office that is nearest to your residence.
4. Specify your details such as name, date of birth, email id, login id, and password. The activation link will be sent to your email.
5. Open your email and click the link to activate the account.
6. Go back to Passport Seva Portal and login to your account using the login id and password that you specified while registering your account.
7. Click **Apply for Fresh Passport/Reissue of passport**.
8. Select **Fresh Passport** option, if applying for the first time. If you need to renew your old passport, select **Reissue** option.



Notes

9. Select the application type – **Normal** for Standard Processing and **Tatkal** for Urgent Processing.
10. Fill the form by giving the required details name, family details, address, employment details, previous passport details, citizenship, and emergency contact number.
11. Click **Submit** button to submit the form.
12. Click **View Saved/Submitted** Applications
13. Click **Pay and Schedule Appointment**.
14. Select your nearest **Passport Seva Kendra (PSK)** or **Post Office Passport Seva Kendra (POPSK)**.
15. Select date and time slot.
16. Pay the application fee using any of the online transaction modes – net banking, credit/debit cards, UPI, or SBI Bank Challan.

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Notes

Practical 56

NET BANKING REGISTRATION

OBJECTIVES

After completing this practical you will be able to:

- Register your net banking account

REQUIREMENTS

- A Digital device with an Internet connection.

PROCEDURE

1. Visit your bank's official website.
2. Click on New **User/Register** option.
3. Specify the Account Id, Customer Id, mobile number, email id or any other details .
4. You will receive an OTP on your registered mobile number.
5. Create user id and password for your net banking account.
6. You may also be asked to set transaction/profile passwords for added security.
7. Once done, login to your account to confirm by performing net banking transactions, checking account balance, etc.

LEARNER'S OBSERVATIONS

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Practical 57

INITIATING UNIFIED PAYMENTS INTERFACE (UPI) PAYMENTS

OBJECTIVES

After completing this practical you will be able to:

- Initiate an online transaction using UPI.

REQUIREMENTS

- A bank account linked to your mobile number
- A smart phone with an Internet connection and any one UPI app (Google Pay, PayTM, BHIM, PhonePe etc.) installed on it.
- UPI Pin of your installed UPI app. (Never Share UPI PIN number with any one)

PROCEDURE

1. Open any UPI app that is installed on your device.
2. Select any one payment method:
 - o Scan QR Code
 - o Mobile Number
 - o Bank Account + IFSC Code
 - o UPI ID
3. Type the amount that you want to pay.
4. Enter your 4-6 digit pin.

5. Click Pay/Send/OK to confirm transaction. You will receive a confirmation SMS on your registered mobile number.

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Practical 58

BOOK TRAIN TICKETS THROUGH IRCTC WEBSITE

OBJECTIVES

After completing this practical you will be able to:

- Book train tickets through IRCTC website

REQUIREMENTS

- A Digital device with an Internet connection.

PROCEDURE

1. Visit official website of IRCTC, <https://www.irctc.co.in>
2. If you have an account, click on **Login** option and type your correct user id and password.
3. If you do not have account on this portal, click **Register** option to create an account by giving your name, mobile number, and email id. Thereafter login using login id and password.
4. Enter Departure station (From Station) and Arrival Station (To Station).
5. Select **Journey Date**.
6. Select Travel **Class** – Sleeper/2AC/ 3AC/ 1AC
7. Click **Search** button. The detailed list of all trains available on that date between the given stations will be displayed.
8. Click **Check Availability and Fare** for the desired train and class.
9. If seats are available, click **Book Now** button.



10. Enter details of passengers travelling – Name, Age, Gender, berth preference, etc.
11. If you want only confirmed tickets, click **Book Only if confirm berths allotted** option.
12. Scroll down and click **Continue** Booking.
13. Review your journey and fare details.
14. Select **Payment Method** – Net Banking, UPI/Wallets, Credit/Debit Cards
15. Enter the necessary details and confirm payment.
16. Once the payment is successful, an e-ticket is generated with PNR number. A copy of e-ticket is also sent to your registered mobile number and mail id.

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Notes

Practical 59

ENROL IN AN ONLINE COURSE

OBJECTIVES

After completing this practical you will be able to:

- Enrol in an online course on SWAYAM (Study Webs of Active Learning for Young Aspiring Minds)

REQUIREMENTS

- A Digital device with an Internet connection.

PROCEDURE

1. Visit the SWAYAM portal on <https://swayam.gov.in/>.
2. If you do not have an account, click **Register** button on top right corner. If you have an account, click **Sign In** and login with your credentials.
3. On the home page, search for the course that you want to enrol by specifying the subject, institute, course name, etc.
4. Open the course page and view the duration, level, syllabus, assessments, certification and other such information.
5. If you are satisfied with the course details, click **Join / Enrol Now** button.
6. Confirm your details and click **Submit** button to complete the enrolment process.

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Practical 60

DATA VISUALIZATION WITH AI SUGGESTIONS (EXCEL/SHEETS)

To create clear charts and graphs using AI-suggested visualizations and interpret insights.

OBJECTIVES

After completing this practical, you will be able:

- To generate charts using AI recommendations in Excel/Sheets.
- To choose appropriate chart types for comparisons, trends, and proportions.
- To interpret visual insights and highlight anomalies.

REQUIREMENTS

- Computer with internet connection.
- MS Excel (Recommended Charts) or Google Sheets (Suggested Charts).
- Sample dataset (e.g., monthly sales by product and region) with 300–500 rows.

PROCEDURE

1. Load Dataset

- Open Sales.csv in Excel/Sheets.
- Ensure columns: Date, Month, Region, Product, Units, Revenue.

2. Summarize Data

- Create a summary table:
 - Total Revenue by Region
 - Total Units by Product
 - Monthly Revenue (Jan–Dec)



Notes

3. Use AI-Suggested Charts

- Excel: Insert → Recommended Charts → pick the top suggestion for each summary table.
- Sheets: Insert chart → Setup → Chart type → Suggested → select the recommended option.

4. Select Best-fit Chart Types

- Comparisons → Column/Bar chart (e.g., Revenue by Region).
- Trends → Line chart (e.g., Monthly Revenue).
- Proportions → Pie/Donut chart (e.g., Share by Product).
- If AI's suggestion differs, note why it may still be suitable.

5. Customize for Clarity

- Add proper titles, axis labels, data labels only where useful.
- Keep colors consistent and readable.

6. Insights and Anomalies

- Write 4 points:
 - o Which region leads?
 - o Which product has the biggest share?
 - o Which month peaks/dips?
 - o Any unusual drop/spike (possible reason)?

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Practical 61

AI-ASSISTED DATA CLEANING AND VALIDATION (EXCEL/SHEETS)

To use AI features to clean, validate, and standardize tabular data.

OBJECTIVES

After completing this practical, you will be able to:

- Use AI-assisted features for removing duplicates and standardizing formats.
- Detect anomalies/outliers in numeric columns.
- Apply formula suggestions and Smart Fill to correct common errors.

REQUIREMENTS

- Computer with internet connection.
- MS Excel (Ideas/Analyze Data) or Google Sheets.
- Sample CSV of 100–200 rows with intentional errors (duplicates, missing emails, irregular phone formats).

PROCEDURE

1. Import Sample Data

- Download sample CSV and open in Excel/Sheets.
- Observe columns like Name, Email, Phone, City, Amount, Date.

2. Remove Duplicates

- Excel: Data → Remove Duplicates (select Email/Phone).
- Sheets: Data cleanup → Remove duplicates.

3. Standardize Formats

- Emails: convert to lowercase using LOWER().



- Phone: standardize to +91-XXXXXXXXXX (use REGEXREPLACE in Sheets or TEXT functions in Excel).
 - Use Smart Fill/Flash Fill to auto-complete consistent patterns.
4. **Detect Anomalies/Outliers**
- Excel: Home → Analyze Data (Ideas) and ask for unusual values.
 - Sheets: Use Explore to surface outliers in Amount column.
 - Apply Conditional Formatting to highlight extremes.
5. **Validate Key Fields**
- Set Data Validation: Email must contain '@'; Amount > 0; Date within range.
 - Use conditional formatting to flag invalid cells.
6. **Summarize Corrections**
- Create a 'Log' sheet: count duplicates removed, emails fixed, phones standardized, outliers flagged.

Observation Table

Issue Type	Count Found	Action Taken	Tool/Feature Used
Duplicates			
Invalid Emails			
Phone Format			
Outliers			

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Practical 62

PROMPT WRITING AND REFINEMENT FOR PROFESSIONAL COMMUNICATION

To draft and improve AI-generated emails with clear prompts and refinement.

OBJECTIVES

After completing this practical, you will be able to:

- Write specific prompts to elicit professional emails.
- Refine AI outputs for tone, accuracy, and brevity.
- Apply a simple checklist for final polishing.

REQUIREMENTS

- Internet-enabled computer with AI writing tool (Gmail Smart Compose/ Microsoft Copilot/free LLM).
- Three scenarios provided by instructor.

PROCEDURE

1. Pick Scenarios (choose any 2)

- Apology email for delayed delivery (2 days).
- Internship application email with attached resume.
- Request for information about a course fee refund.

2. Write Initial Prompts

- Include recipient, purpose, key facts, tone, and length.
- Example: 90–120 words, polite tone, include coupon/order number if relevant.



Notes

3. **Generate Draft and Review**

- Check correctness of names/dates/offers.
- Highlight sentences that are too long or vague.

4. **Refine and Re-Prompt**

- Ask AI to shorten, clarify tone, and add a clear CTA.
- Replace generic phrases with specifics (order no., expected date).

5. **Final Polish Checklist**

- Spelling/grammar, tone, correct facts, clear subject line, proper sign-off.

Observation Table

Scenario	Prompt Quality (L/M/H)	Changes After Refinement	Word Count	Final Rating
Apology				
Internship				
Refund				

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Practical 63

AI IN EXCEL/SHEETS – PIVOT TABLES AND CHART RECOMMENDATIONS

To analyze data using AI-suggested pivots and charts.

OBJECTIVES

After completing this practical, you will be able to:

- Build pivot tables to summarize data.
- Use AI-suggested charts for clear visualization.
- Interpret trends and detect anomalies.

REQUIREMENTS

- Excel or Google Sheets with sample sales dataset (Date, Region, Product, Units, Revenue).
- 300–500 rows recommended.

Procedure

1. Load Dataset

- Open sample Sales.csv in Excel/Sheets.

2. Create Pivot Table

- Excel: Insert → Pivot Table → Rows: Region; Values: Sum of Revenue.
- Sheets: Insert → Pivot table with similar configuration.

3. Add Another Pivot

- Rows: Product; Columns: Month; Values: Sum Units.
- Observe top-selling products per month.



Notes

4. **Use AI Chart Recommendations**

- Excel: Insert → Recommended Charts → select Column/Line chart.
- Sheets: Insert chart → Suggested.

5. **Highlight Anomalies**

- Conditional Formatting to flag months with zero or unusually high revenue.

6. **Insights Note**

- Write 4 bullet points interpreting the charts (e.g., North peaks in Q3).

Observation Table

Task	Feature Used	Result	Insight
Region Revenue			
Monthly Trend			
Anomaly Flag			

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Practical 64

AI IN EMAIL MANAGEMENT – CATEGORIZATION AND SMART REPLIES

To organize inboxes and practice AI-assisted replies.

OBJECTIVES

After completing this practical, you will be able to:

- Use AI features to categorize and prioritize emails.
- Draft quick, professional replies using smart suggestions.
- Set up basic filters/labels for productivity.

REQUIREMENTS

- Gmail or Outlook account (demo inbox or sample messages).
- Access to Smart Labels/Focused Inbox and Smart Reply/Suggested Replies.

PROCEDURE

1. Explore Categories

- Enable Gmail categories (Primary, Social, Promotions) or Outlook Focused Inbox.
- Observe how emails are auto-sorted.

2. Create Filters/Rules

- Rule: subject contains 'Invoice' → label 'Bills' → mark as important.
- Rule: from 'newsletters@' → label 'Promotions'.



Notes

- 3. **Use Smart Reply**
 - Pick 3 emails; choose a suggested reply and edit for tone and clarity.
- 4. **Set Signature and Templates**
 - Add a professional signature (name, role).
 - Save a canned response template (acknowledgment).
- 5. **Reflect on Productivity**
 - Note clicks/time saved compared to manual sorting.

Observation Table

Email Type	Default Category	Filter/Rule Applied	Smart Reply Used
Invoice			
Newsletter			
Customer Query			

LEARNER’S OBSERVATIONS

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Practical 65

DATA ANNOTATION MINI-LAB (IMAGES, TEXT, AUDIO, VIDEO)

To practice core annotation techniques and basic quality checks.

OBJECTIVES

After completing this practical, you will be able to:

- Apply image, text, audio, and video annotation basics.
- Follow simple guidelines for consistency.
- Perform a mini quality check and resolve disagreements.

REQUIREMENTS

- Free/light-weight tools or instructor-prepared worksheets:
- Images: Makesense.ai/CVAT demo or printed sheets.
- Text: Simple PDF/Doc with sentences for NER.
- Audio: 10–15 sec WAV/MP3 clip.
- Video: 5–10 sec MP4 clip.
- Short written guideline handout.

PROCEDURE

1. **Read Guidelines**
 - Review definitions, examples, and what NOT to tag.
2. **Image Annotation**
 - Draw bounding boxes for ‘person’ and ‘phone’ on 5 images.



3. **Text Annotation**

- Highlight entities: PERSON, LOCATION, DATE in 5 sentences.

4. **Audio Annotation**

- Mark speech vs. non-speech and one sound event (e.g., ‘clap’).

5. **Video Annotation**

- Mark start-end time when an action occurs (e.g., ‘person stands up’).

6. **Quality Check**

- Swap work with a partner; note 3 disagreements.
- Suggest guideline changes to reduce future disagreements.

Observation Table

Modality	Task	Your Label(s)	Partner’s Label(s)	Agreement (Y/N)
Image	Boxes			
Text	NER			
Audio	Sound event			
Video	Action timing			

LEARNER’S OBSERVATIONS

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