**Internship Logbook (Day 1 – Day 45)**

**07-07-2025  
Day 1 – Introduction to MS Word**

* **MS Word Interface & Ribbon** – The ribbon organizes commands into tabs like Home, Insert, and Layout, helping users access tools quickly. It makes document navigation and formatting more efficient.
* **Document Creation & Basic Formatting** – Allows creating new files with options for fonts, alignment, spacing, and styles. This ensures professional and readable documents.
* **Page Layout (Margins, Orientation, Size)** – Controls the overall structure of the document. It is important for printing and official formatting requirements.
* **Inserting Images & Shapes** – Adds visuals like images, icons, and shapes. Enhances clarity and presentation of information.  
  **Activity** – Created a formatted document with proper headings and inserted images.

**08-07-2025**

**Day 2 – Advanced Formatting in MS Word**

* **Headers & Footers** – Used to insert titles, page numbers, or company logos across pages. This maintains uniformity in professional documents.
* **Page Numbers & Section Breaks** – Allows numbering pages and dividing sections separately. Useful in reports, books, or academic papers.
* **Themes & Styles** – Predefined designs that apply consistent fonts and colors. Ensures documents look polished and professional.
* **Templates** – Ready-made layouts save time and provide structured formats for reports and resumes.  
  **Activity** – Designed a professional report using themes, styles, and templates.

**09-07-2025**

**Day 3 – Tables & References in MS Word**

* **Creating & Formatting Tables** – Tables help organize data in rows and columns for easy readability. Formatting improves clarity.
* **Footnotes & Endnotes** – Provide explanations or references without disturbing the main text. Essential for academic/professional writing.
* **Citations & Bibliography** – Helps credit sources like books and articles. Ensures authenticity in research documents.
* **Table of Contents (TOC)** – Automatically generates an index from headings. Improves navigation in long documents.  
  **Activity** – Prepared a document with tables, references, and a TOC.

**10-07-2025**

**Day 4 – Document Review & Collaboration**

* **Track Changes & Comments** – Enables users to suggest edits and leave feedback. Crucial for teamwork and review.
* **Spelling & Grammar Check** – Identifies and corrects errors to maintain professional quality.
* **Thesaurus & Smart Lookup** – Provides synonyms and web references to improve content richness.
* **Document Sharing & Protection** – Allows online sharing and security through passwords. Ensures safe collaboration.  
  **Activity** – Reviewed a sample file using track changes and document sharing.

**11-07-2025**

**Day 5 – Resume Preparation in MS Word**

* **Resume Formatting Styles** – Various styles (chronological, functional, hybrid) showcase career details effectively.
* **Sections in Resume** – Includes personal details, skills, education, and projects to highlight qualifications.
* **Using Tables & Alignment in Resume** – Tables and alignment features help arrange sections neatly.
* **Templates for Resume** – Templates make resumes professional and time-efficient.  
  **Activity** – Created a well-structured resume using MS Word tools.

**12-07-2025**

**Day 6 – Introduction to MS PowerPoint**

**PowerPoint Interface & Ribbon** – Explored the layout of PowerPoint including the ribbon, tabs, and menus, which organize all tools for presentation creation. Understood the slide pane and workspace that help in managing and editing slides.

* **Creating Slides** – Learned to insert new slides, select different layouts, and work wit placeholders for text, images, and objects. Practiced structuring slides based on presentation flow.
* **Basic Formatting** – Applied text formatting such as fonts, colors, and backgrounds to improve slide readability. Experimented with built-in themes to maintain a professional look.
* **Slide Design & Templates** – Explored built-in templates that provide ready-made designs for quick presentation creation. Understood how templates save time and ensure consistency.
* **Activity:** Created a simple 4–5 slide presentation on a selected topic, applying basic formatting and templates.
* **Slideshow Presentation Mode** – Practiced delivering slides in presentation mode using presenter view, timings, and rehearsals. Improved confidence and flow in presentation delivery.

**14-07-2025**

**Day 7 – Working with Multimedia & Animations**

* **Inserting Images, Shapes & Icons** – Learned to insert and format visual elements like pictures, shapes, and icons. Enhanced slides to make content more engaging and attractive.
* **Adding Charts, Tables & SmartArt** – Practiced inserting charts, tables, and SmartArt to present information in a structured and graphical way. Improved clarity in data representation.
* **Multimedia Integration** – Explored how to add audio, video, and screen recordings into slides. Understood how multimedia makes presentations more interactive.
* **Animations & Transitions** – Applied animations to text and objects and added transitions between slides. Learned how to balance effects to maintain professionalism.
* **Activity:** Designed a presentation with charts, images, and animations to enhance content delivery.

**15-07-2025**

**Day 8 – Demo & Final PPT Preparation**Each student demonstrated MS Word concepts using a PowerPoint presentation.  
The demo highlighted formatting, document creation, and essential features of MS Word.  
This activity helped students improve both technical knowledge and presentation skills.

**16-07-2025**

**Day 9 – Introduction to Excel & Data Handling**

**Excel Interface, Workbook & Worksheets** – Learned about the Excel environment including workbooks, worksheets, ribbons, and navigation tools. Understood how to structure and manage multiple sheets effectively.

**Entering & Formatting Data (cells, rows, columns)** – Practiced entering data into cells and formatting rows and columns for better readability. Learned resizing, alignment, and adjusting cell properties.

**Data Types & Formatting (numbers, text, dates)** – Explored different data types like numbers, text, and dates, and applied formatting for clarity. Understood how formats affect calculations and reporting.

**Basic Formulas (SUM, AVERAGE, MIN, MAX)** – Learned basic arithmetic functions to calculate totals, averages, minimum, and maximum values. Practiced using formulas for analyzing data quickly.

**Activity:** Created a sales sheet and applied formulas to calculate totals and averages.

**17-07-2025**

**Day 10 – Data Validation & Conditional Formatting**

**Data Validation (drop-down lists, restrictions)** – Learned to control data entry by creating rules like drop-down lists and restrictions. Ensured accuracy and consistency in data handling.

**Conditional Formatting (highlighting rules, color scales, icon sets)** – Applied formatting rules to highlight important values dynamically. Used color scales and icons to visualize trends.

**Custom Formatting Rules** – Explored custom rules to highlight data based on user-defined conditions. Improved data interpretation with tailored formatting.

**Activity:** Designed a student marks sheet using conditional formatting to highlight high and low performers.

**18-07-2025**

**Day 11 – Working with Functions (Part 1)**

**Text Functions (LEFT, RIGHT, MID, CONCATENATE, TEXTJOIN)** – Practiced functions for extracting, joining, and formatting text values. Simplified data management in text-heavy datasets.

**Date & Time Functions (TODAY, NOW, DATEDIF, EOMONTH)** – Learned to calculate current dates, time differences, and month-end values. Applied functions for time-based reporting.

**Logical Functions (IF, AND, OR, NOT)** – Applied logical conditions to test scenarios and return results. Enhanced decision-making in formulas using multiple conditions.

**Activity:** Built a staff attendance tracker using logical and date formulas.

**19-07-2025**

**Day 12 – Working with Functions (Part 2)**

**Lookup Functions (VLOOKUP, HLOOKUP, XLOOKUP)** – Learned to search and retrieve data from large datasets using lookup functions. Compared vertical, horizontal, and modern lookup methods.

**Lookup with Multiple Conditions (INDEX + MATCH)** – Used INDEX and MATCH together for flexible lookups with multiple criteria. Improved accuracy over traditional lookup functions.

**Error Handling Functions (IFERROR)** – Applied error-handling formulas to prevent calculation issues. Ensured reports remained professional and readable.

**Activity:** Prepared a product price lookup sheet using VLOOKUP and INDEX-MATCH.

**21-07-2025**

**Day 13 – Sorting, Filtering & Advanced Filters**

**Basic & Custom Sorting** – Learned to sort data by text, numbers, and dates in ascending and descending order. Practiced multi-level sorting for complex datasets.

**AutoFilter & Advanced Filter (criteria ranges)** – Used filters to extract specific records quickly. Applied advanced filters with custom criteria ranges for flexible data retrieval.

**Using Wildcards in Filtering** – Practiced wildcard characters (\*, ?) in filters to handle partial matches. Improved efficiency in searching data patterns.

**Activity:** Filtered customer orders by region and date using advanced filters.

**22-07-2025**

**Day 14 – PivotTables & PivotCharts (Part 1)**

**Creating PivotTables** – Learned to summarize large datasets using PivotTables. Explored drag-and-drop functionality to reorganize and analyze data.

**Summarizing Large Datasets** – Practiced grouping, totaling, and aggregating data. Made complex datasets easier to understand through summaries.

**Applying Filters, Slicers & Grouping** – Used filters and slicers to focus on specific data. Grouped data to analyze patterns across ranges or categories.

**Activity:** Generated a PivotTable to analyze monthly sales by region.

**23-07-2025**

**Day 15 – PivotTables & PivotCharts (Part 2)**

**Creating PivotCharts from PivotTables** – Learned to create PivotCharts for visual representation of summarized data. Linked PivotCharts directly to PivotTables for dynamic updates.

**Formatting & Customizing PivotCharts** – Customized chart layouts, styles, and labels for better readability. Enhanced visualization to match reporting needs.

**Combining Slicers with PivotCharts for interactive reports** – Integrated slicers with PivotCharts for interactivity. Enabled quick filtering and dashboard-style presentations.

**Activity:** Built a dynamic dashboard using PivotTables and PivotCharts.

**24-07-2025**

**Day 16 – Data Analysis Tools**

**What-If Analysis (Goal Seek, Scenario Manager)** – Explored Goal Seek to back-calculate desired outcomes and Scenario Manager for comparing multiple scenarios.

**Data Tables (one-variable & two-variable)** – Created data tables to analyze results of changing one or two inputs. Useful for forecasting and planning.

**Solver Add-in (basic optimization problems)** – Learned to use Solver for optimization problems like maximizing profit or minimizing costs. Applied constraints to realistic business problems.

**Activity:** Used Goal Seek to calculate required sales to reach a target profit.  
(**Charts & Visualization)**

**Column, Line, Pie, and Combo Charts** – Practiced creating standard chart types to visualize data clearly. Compared chart types for different reporting needs.

**Activity:** Created multiple charts for a monthly expense tracker.

**25-07-2025**

**Day 17 – Advanced Excel (Demo Session)**Introduction to advanced features of Excel, including formulas and functions.  
Students gave demos on data analysis using VLOOKUP, HLOOKUP, and Pivot Tables.  
The session improved efficiency in handling large datasets and enhanced practical skills.

**26-07-2025**

**Day 18 – Lab Practice 1 (Hands-on Session)**

**Lab Tasks:**  
• Created an Employee Database with Name, Department, Salary, and DOJ.  
• Applied data validation to restrict department entries.  
• Used VLOOKUP to find salaries for specific employees.  
• Built a PivotTable to summarize salary distribution by department.  
• Applied conditional formatting to highlight the top 3 salaries.

**28-07-2025**

**Day 19 – Lab Practice 2 (Hands-on Session)**

**Lab Tasks:**  
• Prepared a Sales Dashboard using raw sales data.  
• Applied INDEX + MATCH for flexible product lookups.  
• Used filters to extract monthly sales records.  
• Created PivotCharts to visualize sales performance trends.  
• Built an interactive slicer-based dashboard for dynamic reporting.

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Sql  
**29-07-2025**  
**Day 20 – Introduction to SQL & SSMS**

**SQL Overview (DDL, DML, DQL, DCL, TCL)** – Learned about different SQL categories: DDL for structure, DML for manipulation, DQL for queries, DCL for permissions, and TCL for transactions. Gained a clear understanding of SQL’s role in database operations.

**SQL Server Management Studio (SSMS) Interface** – Explored the SSMS environment, including Object Explorer and Query Editor. Understood how to connect, navigate, and manage databases effectively.

**Creating & Managing Databases** – Practiced creating new databases, renaming, and managing storage. Learned the importance of organizing data systematically.

**Creating Tables (Data Types, Constraints)** – Created tables with different data types and applied constraints like PRIMARY KEY, NOT NULL, and UNIQUE. Ensured data integrity from the beginning.

**Activity:** Created a sample database *CompanyDB* and a table *Employees*.

**30-07-2025**

**Day 21 – Data Retrieval (DQL - SELECT)**

**SELECT Statement (Single & Multiple Columns)** – Practiced retrieving single-column and multi-column data. Understood how SELECT is the foundation of all queries.

**Aliases (AS) for readability** – Used aliases to rename columns and tables for better readability in reports. Made queries more user-friendly.

**Filtering with WHERE, Logical Operators (AND, OR, NOT)** – Applied WHERE clauses with conditions to filter records. Enhanced control over retrieved data using logical operators.

**Sorting with ORDER BY** – Used ORDER BY to arrange data in ascending and descending order. Improved presentation and analysis of query results.

**Activity:** Retrieved employee details with filtering and sorting options.

**31-07-2025**

**Day 22 – Data Manipulation (DML - INSERT, UPDATE, DELETE)**

**INSERT INTO (single & multiple rows)** – Learned to insert new records into tables. Practiced adding both single and multiple rows efficiently.

**UPDATE with conditions** – Updated specific records by applying conditions. Ensured accurate changes without affecting unintended rows.

**DELETE specific rows** – Deleted records selectively using WHERE conditions. Understood how to maintain data accuracy.

**TRUNCATE vs DELETE** – Differentiated between TRUNCATE (removes all data quickly) and DELETE (removes specific rows). Learned when to use each.

**Activity:** Inserted employee records, updated salaries, and deleted a record.

**1-08-2025**

**Day 23 – Functions in SQL**

**String Functions (LEN, SUBSTRING, UPPER, LOWER, CONCAT)** – Practiced string manipulation for formatting and extracting text. Helpful in reports and data cleaning.

**Numeric Functions (ROUND, CEILING, FLOOR, ABS)** – Applied numeric functions to round, adjust, and manage numbers. Essential for financial and statistical data handling.

**Date Functions (GETDATE, DATEDIFF, DATEADD, FORMAT)** – Used date functions to calculate differences, add intervals, and format dates. Improved reporting for time-based analysis.

**Activity:** Created a report showing employee names in uppercase and calculated their work experience in years.

**02-08-2025**

**Day 24 – Joins in SQL**

**INNER JOIN** – Retrieved only matching rows between two tables. Useful for combining related datasets.

**LEFT JOIN** – Retrieved all records from the left table with matching records from the right. Preserved unmatched rows as NULL.

**RIGHT JOIN** – Opposite of LEFT JOIN, ensured all records from the right table were displayed with matching left records.

**FULL OUTER JOIN** – Retrieved all records when there was a match in either table. Combined unmatched records from both sides.

**Activity:** Joined *Employees* and *Departments* tables to display department-wise employee data.

**Subqueries & Nested Queries**

**Single-row Subqueries** – Used subqueries that returned a single value. Helpful for conditional comparisons.

**Multi-row Subqueries (IN)** – Retrieved multiple values using operators like IN. Improved flexibility in queries.

**Correlated Subqueries** – Learned queries that depend on the outer query for execution. Useful for row-by-row analysis.

**Activity:** Retrieved employees with salaries above their department’s average using subqueries.

**04-08-2025**

**Day 25 –**

**Day 25 – SQL (Demo Session)**  
Introduction to SQL queries, focusing on SELECT, UPDATE, and DELETE operations.  
Students demonstrated data retrieval and modification through real-time query examples.  
The demo enhanced practical understanding of database management and query execution.

**05-08-2025**

**Day 26 – Grouping & Aggregation**

**GROUP BY Clause** – Grouped rows based on columns to perform calculations. Simplified summarizing large datasets.

**Aggregate Functions (SUM, AVG, COUNT, MIN, MAX)** – Applied aggregate functions for totals, averages, and counts. Enhanced analysis of grouped data.

**HAVING Clause for grouped filtering** – Filtered grouped results using HAVING conditions. Useful for applying conditions after aggregation.

**Activity:** Calculated average salary per department and filtered only those above a set threshold.

**06-08-2025**

**Day 27 – Lab Practice 1 (Hands-on Session)**

**Lab Tasks:**

1. Created *StudentDB* with tables: *Students, Courses, Enrollments*.
2. Inserted at least 10 records per table.
3. Queries performed: Retrieved students enrolled in a course, found students without enrollments, and updated student grades.

**07-08-2025**

**Day 28 – Lab Practice 2 (Hands-on Session)**

**Lab Tasks:**

1. Created *SalesDB* with tables: *Products, Customers, Orders*.
2. Inserted 15+ sample records for analysis.
3. Queries performed: Displayed total sales by region, identified top 3 best-selling products, and used subqueries to get customers with above-average order amounts.

**08-08-2025**

**Day 29 – Lab Practice 3 (Hands-on Session)**

**Lab Tasks:**

1. Created *LibraryDB* with tables: *Books, Authors, Members, Borrowing*.
2. Inserted at least 20 sample records.
3. Queries performed: Listed books borrowed by a member, found authors with more than 3 books, identified members with no borrowing records, and calculated the most borrowed book.

**09-08-2025**

**Day 30 – Introduction to Power BI**

**What is Power BI? (Components: Power BI Desktop, Service, Mobile App)** – Learned that Power BI is a business intelligence tool with components for report creation, sharing, and mobile access. Understood its role in data visualization and decision-making.

**Power BI Interface & Navigation** – Explored the layout of Power BI Desktop, including ribbon, fields pane, and report canvas. Understood navigation to build reports effectively.

**Connecting to Data Sources (Excel, SQL, CSV)** – Practiced importing data from multiple sources such as Excel, SQL Server, and CSV files. Understood how to establish data connections securely.

**Basic Data Loading & Cleaning (Power Query Editor)** – Used Power Query Editor to perform basic data cleaning like renaming, removing nulls, and formatting columns. Ensured data was analysis-ready.

**Activity:** Connected Power BI to an Excel sales dataset and performed data cleaning before building visuals.

**11-08-2025**

**Day 31 – Data Transformation & Modeling**

**Power Query Editor (Remove duplicates, split columns, merge queries)** – Practiced advanced data cleaning and transformation to ensure dataset accuracy. Improved data consistency for reporting.

**Data Modeling (Relationships between tables)** – Learned how to establish relationships between multiple tables. Improved reporting by linking datasets meaningfully.

**Cardinality & Cross-filter directions** – Explored cardinality (one-to-one, one-to-many, many-to-many) and cross-filter settings. Understood their impact on data analysis.

**Importance of Star Schema in BI** – Learned why star schema design improves report performance and usability. Applied schema concepts for simplified queries.

**Activity:** Built relationships between *Sales, Products,* and *Customers* tables for structured reporting.

**12-08-2025**

**Day 32 – DAX Basics (Measures & Calculated Columns)**

**Difference between Measures & Calculated Columns** – Understood when to use measures (dynamic) versus calculated columns (row-level). Gained clarity on performance optimization.

**Aggregation Functions (SUM, AVERAGE, COUNTROWS, DISTINCTCOUNT)** – Applied basic aggregation functions for calculations. Essential for building metrics like totals and averages.

**IF Logic & Basic Calculations** – Practiced IF statements for conditional logic. Learned how to create business rules directly in DAX.

**Creating KPIs using DAX** – Built KPIs to track performance metrics such as sales, profit, and customer growth. Enhanced reporting insights with custom calculations.

**Activity:** Created measures for *Total Sales, Average Profit,* and *Customer Count*.

**13-08-2025**

**Day 33 – Data Visualization in Power BI**

**Types of Visuals (Tables, Bar/Line Charts, Pie, Map, Cards)** – Learned different chart types for data presentation. Understood when to apply each based on reporting needs.

**Formatting & Customizing Visuals** – Customized charts with labels, colors, and titles for better clarity. Enhanced visual appeal of dashboards.

**Slicers & Filters (Page, Report, Visual-level filters)** – Applied filters and slicers to refine data views at multiple levels. Improved interactivity for users.

**Drill-down & Hierarchies** – Implemented drill-downs to explore data at multiple levels, like Year → Month → Day. Provided deeper analytical flexibility.

**Activity:** Built a sales dashboard with charts, slicers, and summary cards for management reporting.

**Power BI Service: Publishing & Sharing Reports** – Learned to publish reports to Power BI Service and share with stakeholders. Understood collaboration features.

**Activity:** Published a report to Power BI Service.

**14-08-2025  
Day 34 – Power BI (Demo Session)**Introduction to Power BI for data visualization and reporting.  
Students demonstrated dashboards using charts, filters, and interactive visuals.  
The demo improved practical skills in transforming raw data into meaningful insights.

**18-08-2025**

**Day 35 – Lab Practice 1 (Hands-on Session)**

**Lab Tasks:**

* Loaded *SalesDB* dataset with *Orders, Products,* and *Customers*.
* Cleaned and transformed data using Power Query.
* Built relationships between tables for accurate reporting.
* Created visuals: Sales by Region (Map Chart), Top 5 Products (Bar Chart), and Monthly Sales Trend (Line Chart).
* Developed KPIs for *Total Sales, Profit,* and *Customer Count*.

**19-08-2025**

**Day 36 – Lab Practice 2 (Hands-on Session)**

**Lab Tasks:**

* Loaded *HR Dataset* with *Employees, Departments,* and *Attendance*.
* Performed data transformation including duplicate removal and null value cleaning.
* Created DAX measures: *Avg Attendance %, Employee Count per Department,* and *Highest Paid Employee*.
* Designed visualizations: Department-wise Headcount (Stacked Bar), Salary Distribution (Histogram), and Attendance Analysis (Line Chart with Slicer).
* Published the report and built interactive dashboards in Power BI Service.

**20-08-2025**

**Day 40: Data Analysis Project Preparation**

**Project Planning & Requirement Gathering** – Understood project objectives, identified datasets, and finalized scope. Discussed expected outcomes and analysis approach.

**Data Collection & Cleaning** – Gathered raw datasets from multiple sources and performed cleaning tasks such as removing duplicates, handling null values, and standardizing formats.

**Exploratory Data Analysis (EDA)** – Conducted initial analysis using Excel, SQL, and Power BI. Identified trends, patterns, and anomalies in the dataset.

**Model & Dashboard Planning** – Designed a blueprint for reports and dashboards, deciding on KPIs, visualizations, and database queries to be implemented.

**Activity:** Prepared the dataset and outlined project workflow for final analysis and reporting.

**21-08-2025**

**Day 41**

**Project Documentation Preparation**

**Drafting Technical Documentation** – Documented the project methodology including data sources, tools, and technologies used. Added query logic and analysis steps.

**22-08-2025**

**Day 42**

**Report Structuring & Formatting** – Organized documentation into sections such as Introduction, Data Preparation, Analysis, Results, and Conclusion. Ensured clarity and professionalism.

**23-08-2025**

**Day 43**

**Finalizing Deliverables** – Added visuals, charts, and screenshots of dashboards into the documentation. Ensured accuracy and alignment with project requirements.

**Activity:** Completed a detailed project report with supporting visuals and explanations.

**25-08-2025**

**Day 44 – Review of the Project & Documentation**

**Project Review** – Revised the data analysis project, validating outputs and dashboards against initial objectives. Corrected any inconsistencies in results.

**Documentation Review** – Proofread and refined documentation for grammar, formatting, and technical accuracy. Ensured the report was presentation-ready.

**Activity:** Conducted a final review of the project and documentation, preparing it for submission and presentation.

**26-08-2025**