1-Month Data Analyst Execution Roadmap

Practical, Job-Ready Preparation & Portfolio Plan

WEEK 1: Foundations + Excel (Fast Start)

Goal: *Grasp the business context of data and master foundational Excel analysis.*

- **Day 1–2 (Basics):**
  - **Learn:** What is Data Analytics, Business use cases (Zomato, Amazon, Banking).
  - **Task:** Identify 5 key business metrics (e.g., Revenue, CAC, Retention).
- **Day 3–4 (Excel Core):**
  - **Learn:** Core formulas (SUM, IF, VLOOKUP/XLOOKUP) and Pivot Tables.
  - **Task:** Analyze a sample sales dataset to find top performers and trends.
- **Day 5 (Dashboard):**
  - **Build:** An interactive Excel Dashboard covering Sales, Profit, and Region-wise analysis.
- **Day 6 (Case Study):**
  - **Solve:** Investigate a business problem: *"Why did sales drop last month?"*
- **Day 7 (Review):**
  - **Task:** Revise functions, format, and clean your Excel project for your portfolio.

WEEK 2: Python + Data Handling (The Game Changer)

Goal: *Transition from spreadsheets to programmatic data manipulation.*

- **Day 1–2 (Python Basics):**
  - **Learn:** Variables, loops, functions, and NumPy basics.
- **Day 3–4 (Pandas Library):**
  - **Learn:** DataFrames, filtering, and groupby operations.
  - **Task:** Load a CSV file and perform basic exploratory data analysis.
- **Day 5 (Data Cleaning):**
  - **Learn:** Handling missing values, removing duplicates, and data formatting.

- **Task:** Take a messy, real-world dataset and clean it using Pandas.

- **Day 6 (Feature Engineering):**
  - **Task:** Create new columns and derive new business metrics from existing data.
- **Day 7 (Mini Project):**
  - **Deliver:** A fully cleaned and analyzed dataset in a Jupyter Notebook.

WEEK 3: SQL + Visualization (What Recruiters Test)

Goal: *Extract data from databases and tell compelling visual stories.*

- **Day 1–2 (SQL Basics):**
  - **Learn:** Core querying (SELECT, WHERE, GROUP BY, ORDER BY).
- **Day 3–4 (Advanced SQL):**
  - **Learn:** Complex queries, JOINs, and Window functions.
  - **Task:** Solve 10 intermediate-to-advanced SQL queries on a mock database.
- **Day 5 (Visualization Coding):**
  - **Learn:** Python visualization libraries (Matplotlib / Seaborn).
  - **Task:** Code a Bar chart, Line chart, and Distribution plot to reveal trends.
- **Day 6 (BI Tools):**
  - **Learn:** Power BI or Tableau basics (connecting data, building visuals).
  - **Task:** Build 1 interactive dashboard using the SQL data you queried.
- **Day 7 (Review):**
  - **Task:** Revise SQL joins and ensure charts follow data visualization best practices.

WEEK 4: Statistics + Real Projects (Decision-Maker Level)

Goal: *Apply mathematical rigor to data and deliver end-to-end insights.*

- **Day 1–2 (Statistics):**
  - **Learn:** Mean, median, standard deviation, and hypothesis testing.
- **Day 3 (A/B Testing):**
  - **Learn:** Conversion rate comparison and statistical significance.
  - **Task:** Simulate and calculate the results of an A/B test.
- **Day 4 (Exploratory Data Analysis - EDA):**
  - **Learn:** Deep analysis techniques to uncover hidden patterns and insights.
- **Day 5 (API Data):**
  - **Task:** Fetch live, real-world data from a public API using Python.
- **Day 6–7 (Final Capstone Project):**
  - **Scenario:** End-to-End Analytics Workflow.
  - **Project Flow:** Fetch Dataset → Clean → EDA → SQL Queries → Dashboard → Insights.

- **Requirement:** Incorporate A/B testing logic or basic prediction.
- **Deliverables:**
  - ✓ 1 Cleaned Jupyter Notebook (Python)
  - ✓ 1 Interactive Dashboard (Power BI / Tableau)
  - ✓ 1 Slide Deck (PPT) with actionable business insights

Final Outcome (After 30 Days)

You will have an Interview-Ready Data Portfolio containing:

- **Excel Dashboard:** Proving fundamental data manipulation and reporting.
- **Python Data Project:** Demonstrating coding, cleaning, and EDA skills.
- **SQL Query Log:** Showcasing database extraction and manipulation logic.
- **Visualization Portfolio:** Highlighting your ability to communicate data visually.
- **End-to-End Capstone:** Proving you can solve real business problems from raw data to final presentation.