### **Week 1: SQL & Power BI Basics**

**Goal**: Build a strong foundation in SQL and Power BI.

* **Introduction to SQL**
  + Learn about databases, tables, data types, and relational database concepts.
  + Study basic SQL commands: SELECT, WHERE, ORDER BY, LIMIT.
  + **Practice**: Use SQLBolt, Mode Analytics SQL Tutorial, and work with sample datasets like the *Chinook Database*.
  + **Daily Quiz**: 5-10 questions on basic SQL commands and database concepts.
* **Advanced SQL Basics**
  + Learn DISTINCT, IN, BETWEEN, LIKE, and NULL handling.
  + Understand filtering data with AND, OR, NOT.
  + **Practice**: W3Schools SQL Tutorial using sample datasets.
  + **Daily Quiz**: 5-10 questions on filtering and data selection.
* **Power BI Introduction**
  + Download and set up Power BI Desktop.
  + Learn Power BI interface, workspace overview, and data import.
  + **Practice**: Import a CSV file (*Superstore Sales* dataset) and build a simple bar chart.
  + **Daily Quiz**: Write 5-10 questions on the Power BI interface and data import.
* **Build a Basic Power BI Dashboard**: Use dataset for practice.
* **Reflect on LinkedIn**: Share insights on SQL Joins and Power BI Basics - *#DailyTask #DataJourney*.

### **Week 2: SQL Aggregations, SQL Joins & Power BI Data Modeling**

**Goal**: Deepen understanding of SQL aggregation and Power BI data model`ling.

* **SQL Aggregations**
  + Learn GROUP BY, HAVING, SUM, AVG, COUNT, MIN, MAX.
  + **Practice**: SQLZoo exercises using *Chinook Database*.
  + **Daily Quiz**: 5-10 questions on SQL aggregation functions.
* **Power BI Data Modeling**
  + Understand relationships, star schema, and snowflake schema.
  + Create calculated columns and measures using DAX.
  + **Practice**: Build relationships and create basic measures using functions like SUM, AVERAGE, IF with *Superstore Sales* dataset.
  + **Daily Quiz**: 5-10 questions on data modelling and DAX.
* **Data Transformation in SQL**: Practise using CASE statements and subqueries.
* **Build a More Complex Power BI Dashboard**: Use dataset from Kaggle.
* **Reflect on LinkedIn**: "Exploring Data Modeling in Power BI - *#DailyTask #DataVisualization*".

### **Week 3: Advanced SQL & Power BI Visualization Techniques**

**Goal**: Master advanced SQL queries and build interactive Power BI visuals.

* **Advanced SQL Functions**
  + **SQL Joins**: Focus on INNER JOIN, LEFT JOIN, RIGHT JOIN, and FULL JOIN with sample databases.
  + Learn window functions: ROW\_NUMBER, RANK, LEAD, LAG, NTILE.
  + **Practice**: Apply window functions on large datasets like [*MovieLens*](https://www.kaggle.com/datasets/grouplens/movielens-20m-dataset).
  + **Daily Quiz**: 5-10 questions on window functions.
* **Power BI Visualization Techniques**
  + Use custom visuals, filters, slicers, tooltips, drill-throughs, and bookmarks.
  + **Practice**: Use the *COVID-19 Data* dataset from Kaggle.
  + **Daily Quiz**: 5-10 questions on visualisation techniques.
* **Write Complex SQL Queries** for data analysis.
* **Create a Power BI Dashboard** with storytelling components using advanced visuals.
* **Reflect on LinkedIn**: "Advanced SQL and Interactive Power BI Visualizations - *#DailyTask #DataAnalytics*".

### **Week 4: DAX Mastery & SQL Optimization**

**Goal**: Master DAX formulas and optimise SQL queries for better performance.

* **Intermediate DAX Functions**
  + Learn CALCULATE, ALL, FILTER, and VALUES.
  + **Practice**: Create measures for year-over-year analysis and dynamic filtering.
  + **Daily Quiz**: 5-10 questions on DAX functions.
* **SQL Optimization**
  + Learn indexing, query execution plans, and common table expressions (CTEs).
  + **Practice**: Optimize queries using the *MovieLens* dataset.
  + **Daily Quiz**: 5-10 questions on optimization techniques.
* **Combine SQL with Python** for data analysis using Jupyter notebooks.
* **Build a Power BI Report** with complex measures.
* **Reflect on LinkedIn**: "Mastering DAX and SQL Optimization - *#DailyTask #DataSkills*".

### **Week 5: Advanced DAX & Data Integration**

**Goal**: Build advanced DAX measures and integrate data from multiple sources.

* **Advanced DAX Functions**
  + Learn time intelligence functions: DATEADD, DATESYTD, TOTALYTD.
  + **Practice**: Create cumulative totals and rankings using RANKX, TOPN, SUMX.
  + **Daily Quiz**: 5-10 questions on DAX functions.
* **Data Integration in Power BI**
  + Connect Power BI to SQL Server, Web APIs, and other data sources.
  + **Practice**: Use OpenWeather API data for weather analysis.
  + **Daily Quiz**: 5-10 questions on data integration.
* **SQL Challenge**: Try a LeetCode SQL challenge.
* **Create a Power BI Report :** Continue with report.
* **Reflect on LinkedIn**: "Integrating Data Sources in Power BI - *#DailyTask #DataIntegration*".

### **Week 6: Capstone Projects & Final Review**

**Goal**: Apply knowledge through real-world projects

* **Capstone Project #1: Sales Analysis Dashboard**
  + **U**se SQL for EDA and Power Bi for report
  + Analyze sales trends, region-wise performance, and product analysis.
  + **Practice**: Use *Retail Analysis Sample*.
  + **Daily Quiz**: 5-10 questions on dashboard storytelling.
* **Capstone Project #2: Customer Segmentation Analysis**
  + Use SQL for segmentation and Power BI for visualization.
  + **Practice**: Use the *Customer Segmentation* dataset.
  + **Daily Quiz**: 5-10 questions on customer segmentation.
* **Final Review** 
  + Review all SQL and Power BI concepts.
  + Prepare for mock interviews with a focus on SQL and Power BI case studies.

### **Suggested Resources:**

* **SQL**: SQLBolt, Mode Analytics, W3Schools SQL Tutorial, SQLZoo, LeetCode.
* **Power BI**: Microsoft Learn Power BI, Guy in a Cube YouTube Channel, Power BI DAX Guide.
* **Datasets**: *Superstore Sales*, *Chinook Database*, *HR Analytics*, *MovieLens*, *Customer Segmentation*.

**Practice:**

* [**SQLBolt**](https://sqlbolt.com/) **- Interactive SQL tutorials.**
* **Mode Analytics SQL Tutorial - In-depth SQL lessons with exercises.**
* **Work with sample datasets like the** [***Chinook Database***](https://github.com/lerocha/chinook-database) **and *IMDb Movies Dataset from Kaggle*.**