DeveLearn

POWER-BI QUESTIONS

Power BI Basics:

1. **What is Power BI, and how does it differ from Excel?**
2. **Explain the key components of Power BI.**
3. **What are the different views available in Power BI Desktop?**
4. **What is the purpose of Power Query in Power BI?**
5. **What is DAX in Power BI, and why is it important?**
6. **How do you connect to different data sources in Power BI?**
7. **What are the different types of filters in Power BI?**
8. **Explain the difference between a report, a dashboard, and a dataset in Power BI.**

Power BI Data Modeling:

1. **What is data modeling in Power BI, and why is it important?**
2. **How do you create relationships between tables in Power BI?**
3. **What are calculated columns and measures in Power BI?**
4. **Explain the concept of "Many-to-One" and "One-to-Many" relationships.**
5. **How do you handle data types in Power BI?**
6. **What is a data hierarchy in Power BI, and how do you create one?**
7. **What is the use of the `MERGE` and `APPEND` operations in Power Query?**

DAX (Data Analysis Expressions):

1. **What is DAX, and where is it used in Power BI?**
2. **Explain the difference between a calculated column and a measure.**
3. **What are some common DAX functions used in Power BI?**
4. **How do you write a DAX formula to calculate year-to-date (YTD) sales?**
5. **What is the difference between `SUM()` and `SUMX()` in DAX?**
6. **How do you handle time intelligence functions in DAX?**

Power BI Visualizations:

1. **What are the different types of visualizations available in Power BI?**
2. **How do you create a custom visualization in Power BI?**
3. **What is the use of the `Slicer` visualization in Power BI?**
4. **How can you use bookmarks in Power BI?**
5. **Explain the concept of conditional formatting in Power BI.**
6. **How do you create drill-through and drill-down reports in Power BI?**
7. **What is a Power BI report theme, and how do you apply it?**

Power BI Service:

1. **What is Power BI Service, and how does it differ from Power BI Desktop?**
2. **How do you publish a report from Power BI Desktop to Power BI Service?**
3. **What is a Power BI workspace, and how do you manage it?**
4. **Explain the concept of row-level security (RLS) in Power BI.**
5. **How do you schedule data refreshes in Power BI?**
6. **What is a data gateway in Power BI, and why is it used?**

Power BI Practical Questions:

1. **Create a Power BI report to show total sales by region. Include filters to allow users to view sales by product category and year.**
2. **Import a dataset into Power BI and clean it using Power Query. Remove duplicates, handle missing values, and split a column into multiple columns.**
3. **Build a data model in Power BI with relationships between the** `Sales`, `Products`, **and** `Customers` **tables. Ensure the model supports a many-to-one relationship between** `Sales` **and** `Products`, **and** `Sales` **and** `Customers`.
4. **Create a DAX measure to calculate the year-over-year growth in sales. Display this measure in a line chart.**
5. **Design a dashboard that includes KPIs for sales performance, customer acquisition, and product returns. Use different types of visualizations like bar charts, line charts, and cards.**
6. **Implement row-level security (RLS) in Power BI to restrict access to sales data based on the user's region.**
7. **Publish a Power BI report to Power BI Service and set up a scheduled data refresh to update the report daily.**
8. **Use DAX to create a calculated column that categorizes customers into 'High', 'Medium', and 'Low' based on their purchase history.**

SQL Practical Questions:

1. **Write a SQL query to find the top 5 customers by total purchase amount from the** `Orders` **table.**
2. **Create a stored procedure that accepts a start date and end date as parameters and returns all orders placed within that date range.**
3. **Write a SQL query to join the** `Employees` **and** `Departments` **tables and display the employee names along with their corresponding department names.**
4. **Create a function that calculates the total number of days between two dates and returns the result.**
5. **Write a query to find all products that have never been ordered, using the** `Products` **and** `OrderDetails` **tables.**
6. **Create a SQL view that combines data from the** `Customers`, `Orders`, **and** `Products` **tables to show customer names, order dates, and product names.**
7. **Design a SQL query that uses a** `LEFT JOIN` **to find customers who have placed orders but have no associated sales representative in the** `SalesReps` **table.**
8. **Write a SQL query to update the** `Employees` **table, setting the** `Salary` **to a new value based on performance ratings stored in a separate** `Performance` **table.**

Programming Practical Questions:

1. **Write a Python script to read data from a CSV file, perform basic data cleaning (removing nulls, fixing data types), and then export the cleaned data to a new CSV file.**
2. **Create a simple REST API using Flask (or any other framework) that allows users to retrieve, create, update, and delete records from a database table.**
3. **Implement a function in JavaScript that takes an array of numbers and returns a new array with only the even numbers.**
4. **Write a program in Java that connects to a SQL database, retrieves all records from a `Customers` table, and displays them in the console.**
5. **Develop a small web application using HTML, CSS, and JavaScript that allows users to input their name and age, and displays a greeting message with their name and whether they are a minor or an adult.**
6. **Write a C# program that reads data from a text file, counts the number of words, and displays the count.**
7. **Create a simple machine learning model using Python's scikit-learn library to predict housing prices based on a dataset.**
8. **Develop a PowerShell script that automates the backup of a specific directory to a cloud storage service like AWS S3 or Azure Blob Storage.**