Power BI Assignment 2 (SOLUTIONS)

1. Explain the advantages of Natural Queries in PowerBi with an example?

Natural Queries in Power BI refer to the ability of power bi to use natural language to interact with data and ask questions in a more human manner. Making it more user friendly and helps in providing quick insights from the data without much technical knowledge.

Example: If a user wants to analyze sales data by region in Power BI. Instead of writing a query, they can also simply ask, "What are the sales by region?" Power BI will recognize understand this and generate a visualization or report showing sales data segmented by region, providing a quick way to analyze the desired information.

2. Explain Web Front End(WFE) cluster from Power BI Service Architecture?

The Web Front End (WFE) cluster in Power BI Service Architecture is the part that users interact with when using the Power BI web interface. It handles user requests, authentication, and routing to the appropriate backend services. It ensures a smooth user experience in accessing and using Power BI features.

3. Explain Back End cluster from Power BI Service Architecture?

In the Power BI Service Architecture, the Back End cluster refers to the collection of servers and services responsible for processing and managing data in the Power BI service. It handles tasks such as data storage, data transformation, query processing, and report generation. The Back End cluster works behind the scenes to ensure data is securely stored and available for users to access and analyze.

4. What ASP.NET component does in Power BI Service Architecture?

In the Power BI Service Architecture, ASP.NET components play a crucial role in handling web requests and managing the web application framework. They provide the infrastructure and functionality needed for processing user interactions, managing sessions, handling authentication, and rendering the Power BI web interface to users accessing the service.

5. Compare Microsoft Excel and PowerBi Desktop on the following features:

Data import
Data transformation
Modeling
Reporting
Server Deployment
Convert Models
Cost

A) Data import:
- Excel: Supports importing data from various sources but may require manual data manipulation.
- Power BI Desktop: Offers extensive data source connectivity and easier data import with options for transformations.

B) Data transformation:
- Excel: Provides basic data manipulation features through formulas and functions.
- Power BI Desktop: Offers advanced data transformation capabilities with Power Query Editor, enabling data cleansing, shaping, and merging.

C) Modeling:
- Excel: Supports basic data modeling with tables and relationships.
- Power BI Desktop: Provides robust modeling capabilities, including advanced relationships, hierarchies, and calculated measures.

D) Reporting:
- Excel: Enables basic report creation using tables, charts, and pivot tables.
- Power BI Desktop: Empowers interactive and visually-rich reports with extensive visualization options, cross-filtering, and drill-down capabilities.

E) Server Deployment:
- Excel: Typically used as standalone files or shared via file-sharing platforms.
- Power BI Desktop: Allows publishing and sharing reports on the Power BI service for collaborative access and centralized management.

F) Convert Models:
- Excel: No direct model conversion. Models need to be recreated in Power BI Desktop.
- Power BI Desktop: Supports importing Excel models, allowing for conversion and enhancement.

G) Cost:
- Excel: Part of Microsoft Office Suite with various licensing options.
- Power BI Desktop: Free to download and use. Additional costs may apply for Power BI Pro or Premium subscriptions for collaboration and enterprise features.

6. List 20 data sources supported by Power Bi desktop.

1. Excel workbooks (XLSX, XLS)
2. CSV (Comma-Separated Values) files
3. SQL Server databases
4. Azure SQL Database
5. Oracle Database
6. MySQL Database
7. PostgreSQL Database
8. SharePoint Online lists
9. Salesforce
10. Dynamics 365
11. Google Analytics
12. SharePoint Folder
13. Web (HTML, XML, JSON)

14. OData feed
15. Hadoop File (HDFS)
16. SharePoint Server
17. Teradata Database
18. Sybase Database
19. IBM DB2 Database
20. SAP HANA