**Power BI Assignment 2**

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

A: Natural Queries in Power BI is a feature that allows users to ask questions about the data in a natural language format, similar to how a person would ask a question. It uses machine learning algorithms to understand the intent of the question and generates a query to retrieve the appropriate data.

Example: What is the average sales of product X in the last month by region?". Power BI will understand the intent of the question and will retrieve the data from the data source, calculate the average sales of product X in the last month by region, and present it in an easy-to-understand format, such as a chart or table.

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

A: The WFE cluster is a group of servers that handle the web requests from users, such as rendering reports and dashboards, and serving up data. These servers are responsible for handling the user interface and presentation layer of the Power BI Service.

1. **Explain Back End cluster from Power BI Service Architecture?**

A: The Back-End (BE) cluster is another important component of Power BI Service architecture, which works in conjunction with the Web Front-End (WFE) cluster to provide a seamless user experience., The BE cluster is a group of servers that handle the processing and data storage tasks, such as data modeling, data transformation, and data retrieval. These servers are responsible for handling the business logic and data access layer of the Power BI Service.

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

A: ASP.NET is a web application framework developed by Microsoft that is used to build web applications and services. In Power BI Service architecture, the ASP.NET component is used to build the web front-end of the service, which is responsible for handling the user interface and presentation layer.

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

**Data import, Data transformation**

**Modeling, Reporting**

**Server Deployment**

**Convert Models**

**Cost**

A: Data import: Both Microsoft Excel and Power BI Desktop allow for the import of data from various sources, such as CSV, Excel, and databases. However, Power BI Desktop has more connectors available, including online services such as Google Analytics and Salesforce.

Data transformation: Excel has basic data transformation capabilities such as sorting, filtering, and basic calculations using formulas. Power BI Desktop, on the other hand, has more advanced data transformation capabilities with the use of Power Query, which allows for more complex data manipulation and cleaning.

Modeling: Excel has limited modeling capabilities, mostly focused on basic calculations and pivot tables. Power BI Desktop has more advanced modeling capabilities, including the ability to create complex relationships between tables and the use of calculated columns and tables.

Reporting: Excel has basic reporting capabilities, such as creating charts and pivot tables. Power BI Desktop has more advanced reporting capabilities, including the ability to create interactive visualizations and dashboards.

Server Deployment: Excel is primarily a desktop application, while Power BI Desktop is a part of Power BI Service, which is a cloud-based service. Excel can be deployed on-premises, while Power BI can be deployed on the cloud or on-premises with Power BI Report Server.

Convert Models: Excel files can be easily converted to Power BI Desktop files, but some features may not be compatible. Power BI Desktop models can also be easily converted to Excel files with the export feature.

Cost: Excel is included in the Office Suite and is available for purchase as a standalone application or as part of an Office 365 subscription. Power BI Desktop is a free application, but access to the Power BI Service requires a Power BI Pro or Power BI Premium subscription.

1. **List 20 data sources supported by Power Bi desktop.**

A:

SQL Server

Oracle

MySQL

PostgreSQL

SharePoint

Excel

CSV

JSON

OData

Web

Salesforce

Google Analytics

IBM DB2

Teradata

SAP HANA

Google BigQuery

Amazon Redshift

Azure SQL Database

Azure Data Lake Storage

Azure Synapse Analytics (formerly SQL Data Warehouse)