**Power BI Assignment 3**

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

Sometimes the fastest way to get an answer from your data is to perform a search over your data using natural language. The Q&A feature in Power BI lets you explore your data in your own words using natural language. Q&A is interactive, even fun. Often, one question leads to others as the visualizations reveal interesting paths to pursue. Asking the question is just the beginning. Travel through your data, refining or expanding your question, uncovering new information, zeroing in on details, or zooming out for a broader view. The experience is interactive and fast, powered by an inmemory storage.

Power BI Q&A is free and available to all users. In Power BI Desktop, report designers can use Q&A to explore data and create visualizations. In the Power BI service, everyone can explore their data with Q&A. Our mobile apps support Q&A too, with the Q&A virtual assistant in iOS and the Q&A visual on Android devices. If you have permission to edit a dashboard or report, you can also pin your Q&A results.

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

The Power BI service architecture is based on two clusters – the Web Front End (WFE) cluster and the Back-End cluster. The WFE cluster **manages the initial connection and authentication to the Power BI service**, and once authenticated, the Back-End handles all subsequent user interactions.

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

The Back-End cluster is **how authenticated clients interact with the Power BI service**. The Back-End cluster manages visualizations, user dashboards, datasets, reports, data storage, data connections, data refresh, and other aspects of interacting with the Power BI service.

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

The ASP.NET component within the WFE cluster parses **the token to determine which organization the user belongs to, and then consults the** Power BI Global Service. The WFE specifies to the browser which back-end cluster houses the organization's tenant.

1. **Compare Microsoft Excel and Power Bi Desktop on the following features:**
   1. **Data import**

Power BI can **manage Big Data** while Microsoft Excel is not efficient in handling Big Data. Power BI can connect with different varieties of resources while Microsoft Excel can connect to limited sources.

* 1. **Data transformation**

Excel is used to organize data, transform it and perform mathematical operations and calculations.Power BI is a more powerful tool than Excel in terms of comparison between tables, reports or data files. Power BI is more user friendly and easy to use than Excel.

* 1. **Modeling**

Excel has limitations in the amount of data it can work with. Power BI has faster processing than Excel. Power BI dashboards are more visually appealing, interactive and customizable than those in Excel. Power BI is a more powerful tool than Excel in terms of comparison between tables, reports or data files.

* 1. **Reporting**

Power BI and Excel differ when it comes to which data sources they can work with. Excel can connect to many sources. Power BI, however, supports many more data sources. However, it is possible to create a report using different data sources without having to split it into several smaller reports.

* 1. **Server Deployment**

With Power BI, you can connect with on-premises data and through cloud services. The subscription version of Power BI allows for an unlimited amount of storage and adds connections to your data.

* 1. **Convert Models**

Power BI can connect with different varieties of sources while Microsoft Excel can connect to limited sources. Power BI dashboards are more interactive and custom while Microsoft Excel dashboards are not much interactive. Power BI is easy to use and very much flexible while Microsoft Excel is not so handy to use.

* 1. **Cost**

Power bi desktop cost is more than Microsoft excel cost.

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

* Flat Files.
* SQL Database.
* Data Feed.
* Blank Query.
* Azure Cloud platform.
* Online Services.
* Blank Query.
* Hadoop
* Exchange
* Active Directory
* Data Virtuality LDW
* Microsoft Dataverse
* Denodo
* Dynamics 365 (online)
* Access database
* Amazon Redshift
* Assemble Views
* Active Directory
* Postgre SQL
* Power platform dataflows