**Power BI Assignment 2**

**Explain the advantages of Natural Queries in Power BI with an example?**

Natural Language Query functionality, which is covered in the Q&A visual, is a powerful way of interacting with your dataset. Working with big groups of report consumers, you simply can’t speak to every single person to get their requirements clear and for sure not cover every single need for information in your report. In this case, the Q&A visual can be very useful! Report consumers can interact with the dataset without doing any technical complex stuff and get their questions answered based upon the dataset.

Since the visual is not hidden behind a button anymore, it is better discoverable and more user friendly to interact with the dataset from an end-user perspective. Also, as a report author, the Q&A visual can help you to get a better understanding of the need for information by reviewing the questions asked. For example, noticing that one specific question is asked very frequent, can lead to new insights and visuals to implement in the next release of your report.

**Example:**

Many times, I see data models build in Power BI where the table and column names are technical names, as they are imported from the data source. Very unreadable and not user friendly at all. First thing I always do after importing the data, is changing names to be more user friendly. Changing the names is the first step in making your data model more user friendly for self-service re-use by end users, but also empowering the natural language query functionalities.

As noticed before, working with large groups of report consumers, it can be challenging to find the right name for tables and columns in order to let everybody understand where it is about. Especially when you are working with people from different background or even different languages, it is not very easy for them to interact with the Q&A functionality. Although translations are not supported (yet?) in Power BI, the use of synonyms can be of help here!

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

The Power BI service is built on Azure, which is Microsoft’s cloud computing infrastructure and platform. 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.

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

The Back-End handles all subsequent user interactions. Power BI uses Azure Active Directory (AAD) to store and manage user identities, and manages the storage of data and metadata using Azure BLOB and Azure SQL Database, respectively.

**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.

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

Excel is used to organize data, transform it and perform mathematical operations and calculations. On the other hand, Power BI was conceived as a business intelligence and data visualization tool for businesses.

Excel has limitations in the amount of data it can work with. In contrast, Power BI can handle much larger amounts of data.

Power BI can connect to a large number of data sources, while Excel's connectivity capacity is limited. Also, unlike Excel, Power BI can be easily used from mobile devices.

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.

Power BI is more user friendly and easy to use than Excel.

**List 20 data sources supported by Power BI desktop.**

List goes like:

Excel Workbook

Text/CSV

XML

JSON

Folder

PDF

Parquet

SharePoint folder

SQL Server database

Access database

SQL Server Analysis Services database

Oracle database

IBM Db2 database

IBM Informix database (Beta)

IBM Netezza

MySQL database

PostgreSQL database

Sybase database

Teradata database

SAP HANA database

SAP Business Warehouse Application Server

SAP Business Warehouse Message Server