**Power BI Assignment 2**

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

**Ans**. Natural Language Queries: Power BI supports natural language queries, allowing users to ask questions about their data using everyday language. This feature makes data exploration more intuitive and accessible to users who may not have technical expertise.

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

**Ans**. The Web Front End (WFE) cluster. The WFE cluster manages the initial connection and authentication to the Power BI service. The Back-End cluster. Once authenticated, the Back-End handles all subsequent user interactions.

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

**Ans**. The Back-End cluster manages visualizations, user dashboards, semantic models, reports, data storage, data connections, data refresh, and other aspects of interacting with the Power BI service. The Gateway Role acts as a gateway between user requests and the Power BI service.

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

**Ans**. Power BI is a business suite that includes several technologies that work together. To deliver outstanding business intelligence solutions, Microsoft Power BI technology consists of a group of components such as:

* Power Query (for data mash-up and transformation)
* Power BI Desktop (a companion development tool)
* Power BI Mobile (for Android, iOS, Windows phones)
* Power Pivot (for in-memory tabular data modelling)
* Power View (for viewing data visualizations)
* Power Map (for visualizing 3D geo-spatial data)
* Power Q&A (for natural language Q&A)

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

Data import

Data transformation

Modeling

Reporting

Server Deployment

Convert Models

Cost

**Ans**.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.

**Data Modeling**:Excel offers more flexibility, customization, familiarity, ease of use, compatibility, and formatting options compared to Power BI. However, Power BI excels at tasks that require real-time insights, interactive visualizations, and the ability to handle massive datasets.

**Reporting:** 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.

**Server Deployment:**

Power BI handles Big Data, while Microsoft Excel cannot handle Big Data. 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 less interactive.

**Convert Models:**

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.

**Cost**:Power BI Desktop is a free download. To get Power BI Desktop, you can use one of two approaches. Install as an app from the Microsoft Store. Download directly as an executable and install on your computer.

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

* OneLake data hub to discover existing data and reports
* **Apps**
* **Excel** or **CSV**
* .pbix files
* **Excel** workbooks, or .xlsx and .xlsm files
* Power Query is available via **Get & Transform Data**
* text (.txt)
* Azure databases like Azure and Power BI
* Azure SQL Database with Direct Query
* Azure Synapse Analytics with Direct Query
* SQL Server Analysis