**Power BI Assignment 2**

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

Accessibility: Natural queries make data exploration and analysis more accessible to a broader range of users, including those without specialized technical skills. For instance, a marketing manager might ask, "Show me the total sales by region in the last quarter," without needing to know SQL or complex data query syntax.

Ease of Use: Users can ask questions using familiar language, making it intuitive and straightforward to retrieve information from complex datasets. For instance, someone might ask, "What were the top-selling products last month?" and Power BI can interpret and present the relevant visualizations.

Time-Saving: Natural language queries save time by eliminating the need to build complex queries manually. Users can quickly obtain answers to their questions without having to navigate through multiple menus or create intricate queries.

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

In the Power BI Service Architecture, a Web Front End (WFE) cluster refers to a collection of servers that handle the user interface and interaction aspect of Power BI. These servers manage the web-based interface that users interact with when accessing Power BI reports, dashboards, and other functionalities through a web browser.

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

The Backend cluster in Power BI is like the engine that runs in the background. It's where all the data processing, storing, and managing happens. When you upload your data, create reports, or perform any action in Power BI, this cluster takes care of organizing and processing that information. It's the part that works on data storage, calculations, and preparing the content that you eventually see on the Power BI website.

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

In the Power BI Service Architecture, ASP.NET components play a significant role in handling the web-based aspects of the Power BI service. ASP.NET is a web development framework used to build web applications and services, and in the context of Power BI, it helps in creating and managing the online platform through which users access reports, dashboards, and analytical tools.

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

Data Import:

Excel: Supports importing data from various sources but might require manual processes for complex data connections.

Power BI Desktop: Offers extensive options for data import from diverse sources, including databases, cloud services, files, and more, with simplified data connection setup.

Data Transformation:

Excel: Provides basic data transformation functionalities through formulas, pivot tables, and some add-ins.

Power BI Desktop: Offers advanced data transformation capabilities through Power Query Editor, allowing users to clean, shape, and transform data easily with a user-friendly interface.

Modeling:

Excel: Allows data modeling using pivot tables, relationships, and basic data modeling features.

Power BI Desktop: Provides robust data modeling capabilities with relationships, DAX (Data Analysis Expressions), calculated columns, measures, and hierarchies to create sophisticated data models.

Reporting:

Excel: Creates reports using spreadsheets and pivot tables, with limitations on interactive and visually appealing reports.

Power BI Desktop: Enables creation of highly interactive and visually appealing reports with various visualizations, customizations, and storytelling features.

Server Deployment:

Excel: Typically used as a standalone tool; sharing involves sending files or uploading to shared platforms like SharePoint.

Power BI Desktop: Designed for sharing and collaboration; reports can be published to Power BI Service for centralized access and sharing with specific permissions.

Convert Models:

Excel: Models might need to be rebuilt or redesigned when transitioning to other platforms due to differences in structure.

Power BI Desktop: Offers smoother model conversion and compatibility when migrating or transitioning between different versions or environments.

Cost:

Excel: Often included in Microsoft Office suites; no additional cost for basic functionalities.

Power BI Desktop: Free to download and use; however, advanced sharing, collaboration, and additional features might require subscription-based licensing.

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

1.Excel: Workbooks and tables within Excel files.

2.CSV: Comma-separated values files.

3.SQL Server Database: Microsoft's relational database system.

4.Azure SQL Database: Microsoft's cloud-based relational database service.

5.SQL Server Analysis Services: OLAP (Online Analytical Processing) multidimensional or tabular data.

6.Azure Analysis Services: Cloud-based OLAP service by Microsoft.

7.Oracle Database: Oracle's relational database management system.

8.MySQL Database: Popular open-source relational database system.

9.PostgreSQL: Open-source relational database system.

10.Web: Data from web pages using HTML, XML, or JSON formats.

11.SharePoint Online: SharePoint lists or libraries.

12.Microsoft Access Database: Microsoft's database management system.

13.Folder: Multiple files within a folder with similar structures.

14.PDF: Portable Document Format files.

15.JSON: JavaScript Object Notation files.

16.XML: Extensible Markup Language files.

17.Google Analytics: Web analytics service by Google.

18.Salesforce: Cloud-based customer relationship management (CRM) platform.

19.Azure Blob Storage: Microsoft's cloud-based object storage solution.

20.Dynamics 365: Microsoft's suite of enterprise resource planning (ERP) and customer relationship management (CRM) applications.