**Power BI Assignment 2**

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

Answer: This feature lets us explore our data in our own words using natural language. For example: when we type any query, Power BI itself shows relevant suggestions to help you quickly become productive with natural language.

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

Answer: Power BI service architecture is based on two clusters – the WFE and Back end cluster. The WFE cluster manages the initial connection an 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?

Answer: The back end cluster manages datasets, storage, reports, visualizations, data connections, data refreshing, and other services in Power BI. At back end, web client has only two direct points of interaction, Azure API management and gateway role.

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

Answer: 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.

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

Data import

Data transformation

Modeling

Reporting

Server Deployment

Convert Models

Cost

Answer:

* Data import: 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.
* Data transformation: Excel itself has a vast number of functions that allow you to transform data, change the spreadsheet’s appearance, perform various mathematical operations, and many others. These functions are more than enough to help you structure and organize your data in most simple cases.

While Power Bi also gives the same and data transformation is much easy in Power Bi.

* Modeling: The Data Model for Microsoft Excel is focused on keeping it simple while offering you a wide array of features, while for Power BI the Data Model is primarily focused on Data Ingestion along with the ability to build more complex structures on top of it. Microsoft Excel is mainly used for simple analysis tasks on historical data only while Power BI deals with the simplification of real-time data obtained from disparate sources, apart from complex analysis of historical data.

* Reporting: Microsoft Excel offers you a limited range of dashboards if you look at interactivity and the range of functions. It has a tabular data format that can help you visualize data with various chart formats. However, it is not an ideal tool for larger datasets. Power BI has a cohort of powerful features like easy formatting, natural language querying, resizing, editing, and filtering that make the reports easy to understand, and visually attractive, while helping you draw multi-faceted insights to guide the decision-making process. Power BI’s reports are highly dynamic and interactive.
* Server Deployment: The deployment process lets you clone content from one stage in the pipeline to another, typically from development to test, and from test to production. During deployment, Power BI copies the content from the current stage, into the target one. The connections between the copied items are kept during the copy process
* Cost: Power BI has a number of pricing plans to choose from: Power BI Pro: Power BI Pro costs $9.99/user/month. Power BI Premium: Power BI Premium has two sub-plans to choose from:
  + Per User: This plan costs $20/user/month and offers all the features provided by Power BI Pro.
  + Per Capacity: This plan is offered at $4995/month and is primarily meant for customers at the enterprise scale.

Microsoft Excel comes at a flat cost of $139.99 if you are looking to buy only MS Excel, otherwise, you can get it at a lower price of $6.99/month as a part of the Office 365 Suite.

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

Answer:

1. Excel
2. Text/csv
3. XML
4. Oracle database
5. PostgreSQL database
6. Sap Hana database
7. Google big query
8. Github
9. Face book
10. JSON
11. IBM DB2 database
12. My SQL Database
13. Tera data database
14. SAP business warehouse server
15. Amazon redshift
16. Impala
17. Azure SQL database
18. Salesforce reports
19. Google analytics
20. Sybase database