**Power BI Assignment 2**

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

Answer:

* Ask natural questions Which sales has the highest revenue?
* Use relative date filtering Show me sales in the last year
* Return only the top N Top 10 products by sales
* Provide a filter Show me sales in the USA
* Provide complex conditions Show me sales where product category is Category 1 or Category 2
* Return a specific visual Show me sales by product as pie chart
* Use complex aggregations Show me median sales by product
* Sort results Show me top 10 countries by sales ordered by country code
* Compare data Show me date by total sales vs total cost
* View trends Show me sales over time

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

Answer: 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?

Answer: 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?

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:

| **Item** | **Power BI** | **Excel** |
| --- | --- | --- |
| **Availability** | Power BI is a recent product, so you cannot see this with all Excel users. | Excel is everywhere and available to most people. |
| **Learning** | Power BI is not that easy. It requires considerable knowledge of Power Query and Power Pivot DAX formulas and techniques to use it. | Who does not know Excel? Excel is the universal language spoken in almost all the offices worldwide. Because Excel has been around for a long time, most users find it easy to learn. |
| **Cost to Acquire** | Power BI Desktop is free to download and use for personal use, but it takes  $10 per month per user to share reports with others. | Since we already have Excel, we need to spend additional money to procure this and build dashboards. |
| **Working Flexibility** | Power BI is not flexible, especially if it just shifted from Excel to Power BI. You cannot do everything, everywhere. | Excel is flexible to use and create summary reports in simple steps and formulas. |
| **Visuals** | Power BI has a wide variety of visualizations. We can import many other visuals from the marketplace besides available built-in charts. | Excel has only a few built-in charts, and we need to work with only those charts to build dashboards. |
| **Chart Customization** | Power BI does not have the luxury of customizing a chart to the full extent. Therefore, if you are working with one set of charts, you can only work with that chart. | Excel is special. We can create another set of charts only using built-in charts. For example, a thermometer chart. |
| **Dashboard Interactivity** | Power BI not only has slicers but also has a wide variety of other slicers. Cross filters, visual level filters, report level filters, and drillthrough filters. | Excel has slicers to make the dashboards interactive with the user. |
| **Size of the Data** | Power BI can handle large amounts of data with the Power Pivot engine model. More importantly, it does not restrict to any specific versions of Excel or Office 365. | Excel struggles to handle a large amount of data and often says “Not Responding” error with a large quantity of data. |
| **Accessibility** | Power BI cannot be accessible everywhere unless you have licensed software. | We can access Excel from everywhere, and it is an easy software to start learning dashboard skills. |
| **Formula Language** | Power BI uses DAX language for its formulas and functions. | Excel uses the MDX language for its formulas and functions. |
| **Data Security** | With Power BI, we can restrict the data view to individuals by setting rules. | When you share the dashboard with external stakeholders, you need to share it with data, which does not guarantee data security. |
| **Data Source** | Power BI also has Power Query; it can fetch data from everywhere. | Excel can get data from everywhere with Power Query. |

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

Answer:

1 JSON

2 XML

3 PDF

4 SQL Server database

5 MySQL data base

6 Azure SQL Database

7 Impala

8 Oracle database

9 IBM Db2 database

10 Access database

11 Share Point Online List

12 Google Analytics

13 GitHub

14 Adobe Analytics

15 Google Analytics

16 Smartsheet

17 QuickBooks Online

18 Common data service (legacy)

19 Hadoop File (HDFS)

20 Excel