**Power BI Assignment 2**

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

Ans: - Natural language query gives advantage to ask any questions from “Q&A” section in own language. There are many advantages of Natural queries like, ask question in your own language, teach and give suggestions in your language. It reduces the bridge gap between technical and non- technical knowledge to query any problem. Suppose you want to query top 5 buyer from which business got most profit and you are from non-technical background and don’t know about bar chart, in such case you have to just search in Q&A, power BI will publish bar chart with top 5 customers.

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

Ans: - Power BI gives various tools, software, and services for easy and dynamic access of reports. Power BI architecture consists of components likes data source, Power BI desktop, Power Query, Power Pivot, Power BI services, Power BI mobile App and more. All reports you build in Power BI Desktop are published on the Power BI Service cloud platform. Users can use client platforms, including websites, mobile devices, etc., to view the reports and dashboards from the Power BI Service. Power BI services architecture divide into two sections: Web Front End cluster and Back End cluster. Visualizations, datasets, storage, reports, data connections, data updating, and other Power BI interactions are handled by the Power BI services on the back end.

Clients and the back end are connected by the front end, commonly known as the web front end cluster. The front-end services handle the initial connection and Azure Active Directory client authentication. User IDs are kept in the Azure Active Directory. After authentication, user requests are routed through Azure Traffic Manager to the closest data center. The Azure Content Delivery Network (CDN) makes static Power BI content and files available to users when a client or user has been authorized.

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

Ans: - Visualizations, datasets, storage, reports, data connections, data updating, and other Power BI interactions are handled by the Power BI services on the back end. A web client can only directly interface with Azure API Management and Gateway Role on the backend. These two parts are in charge of routing, load balancing, authentication, and authorization.

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

Ans: - It is part of Web Front End cluster, a web framework designed and developed by Microsoft. It is used to publish Power BI desktop to webservices.

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

Ans: -

* + - 1. Data import: Power BI can connect to many data source than excel.
      2. Data transformation: Power BI uses power query for data transformation and gives DAX language for creating new columns and measures whereas excel don’t give such features.
      3. Modeling: Power BI is intelligent which suggest best model whereas excel don’t have such features.
      4. Reporting: Creating Report in Power BI desktop is much easier than excel. In Power BI desktop you just have to drag and drop the chart and data and need less skills.
      5. Server Deployment: Power BI allows you to publish your desktop report to web and mobile app which can be accessed from anywhere by user id and password whereas excel don’t give these features.

1. Convert Models: in Power BI to convert or any change in model can be done by just drag and drop the key columns
2. Cost: Cost of Power BI is much higher than excel because it provides strong security and various tools and software.
3. List 20 data sources supported by Power Bi desktop.

Ans: - List of data sources supported by Power BI desktop are:

1. Excel

2. Text/CSV

3. XML

4. JSON

5. Oracle Database

6. IBM DB2 Database

7. MySQL Database

8. PostgreSQL Database

9 . Teradata Database

10. SAP Business Warehouse server

11. Amazon Redshift

15. Google Big Query

16. Azure SQL Database

17. Salesforce Reports

12. Google Analytics

13. Facebook

14. GitHub

18. LinkedIn Sales Navigator

19. R script

20. Google sheet