**Power BI Assignment 2**

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

* Guided Natural Language Query is a unique self-service BI experience.
* Every question is understood by Guided Natural Language Query.
* Guided Natural Language Query makes it simple to ask complex questions.
* Guided Natural Language Query is integrated throughout Yellowfin.

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

* The Power BI service is built on Azure, Microsoft's cloud computing infrastructure and platform. The Power BI service architecture is based on two clusters, one of which is the Web Front End (WFE) cluster.
* A WFE cluster manages the initial connection and authentication to the Power BI service.
* The WFE cluster uses Azure AD to authenticate clients and provide tokens for subsequent client connections to the Power BI service. Power BI uses Azure Traffic Manager (Traffic Manager) to route user traffic to the closest data centre. Traffic Manager forwards requests using DNS records for clients attempting to connect, authenticate, and download static content and files. Power BI uses the Azure Content Delivery Network (CDN) to efficiently distribute required static content and files to users based on their geographic locale.

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

* The Power BI service is built on Azure, Microsoft's cloud computing infrastructure and platform. The Power BI service architecture is based on two clusters, one of which is the Web Back End (WFE) cluster.
* After authentication, the backend handles all subsequent user interactions. Power BI uses Azure Active Directory (Azure AD) to store and manage user identities. Azure AD also manages data storage and metadata using Azure Blobs and Azure SQL Database respectively.
* The backend cluster determines how authenticated clients interact with the Power BI service. A backend cluster manages visualizations, user dashboards, datasets, reports, data storage, data connectivity, data refresh, and other aspects of interaction with the Power BI service. A gateway role acts as a gateway between user requests and the Power BI service. Users do not interact directly with roles other than gateway roles. Finally, Azure API Management assumes the gateway role.

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

* It is not possible to create power bi reports from .Net platform.
* However, we can integrate power Bi reports to our .Net Application via iframe.
* And ASP.NET helps Power BI Service Architecture in visualization.

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

|  |  |  |
| --- | --- | --- |
|  | Microsoft Excel | Power BI |
| 1. Data import | There is only one way to import the data in Excel which is by importin the text/csv file. | There are a lot of different ways to import data in Power BI, such as Azure SQL Database, Excel, Oracle Database and many more. |
| 2. Data transformation | Excel is used to organize data, transform it, and perform mathematical operations and calculations. | Power BI was conceived as a business intelligence and data visualization tool for businesses. |
| 1. Modelling | Ability to work on simple and structured data models. | Ideal for building complex data models easily. |
| 1. Reporting | Simpler and less attractive reports than those of power BI | More beautiful, personalised, attractive, and interactive reports. |
| 1. Server Deployment | The deployment process in excel happens with the help of Power BI itself. | 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. |
| 1. Convert Models | We cannot convert our power BI models in Excel power pivot models. | We can easily convert our Excel power pivot models in power BI. |
| 1. Cost | Payment Tool | It has a free version and a payment version. |

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

* Excel
* Text/CSV
* XML
* JSON
* Oracle Database
* IBM DB2 Database
* MySQL Database
* PostgreSQL Database
* Sybase Database
* Teradata Database
* SAP HANA Database
* SAP Business Warehouse server
* Amazon Redshift
* Impala
* Google BigQuery (Beta)
* Azure SQL Database
* Salesforce Reports
* Google Analytics
* Facebook
* GitHub