Power BI Assignment 2

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

Ans- Natural Language Query provides a user-friendly and intuitive way to interact with data using everyday language.

Advantages of Natural Queries in PowerBI

a)Accessibility- easier for non technical users to interact with data and gain insights

b)Speed and efficiency-by enabling users to quickly obtain answers of their data related questions

c)Ease of Adoption- by providing familiar and intuitive interface

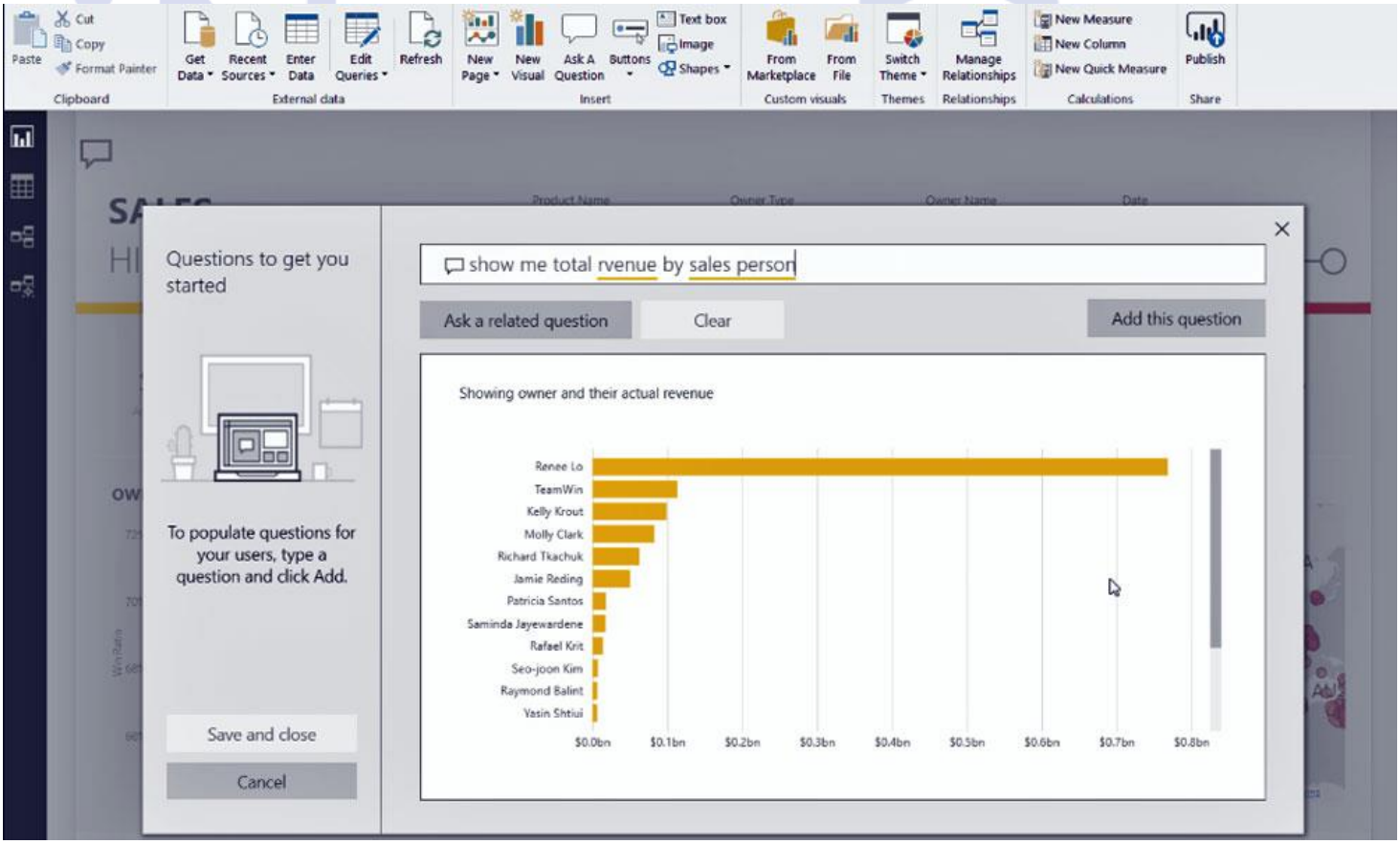


Fig- Example of Natural Query in Power BI

d)Iterative Exploration- by allowing users to iteratively

e)Guided Analytics- by providing suggestions to users when they type their queries

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

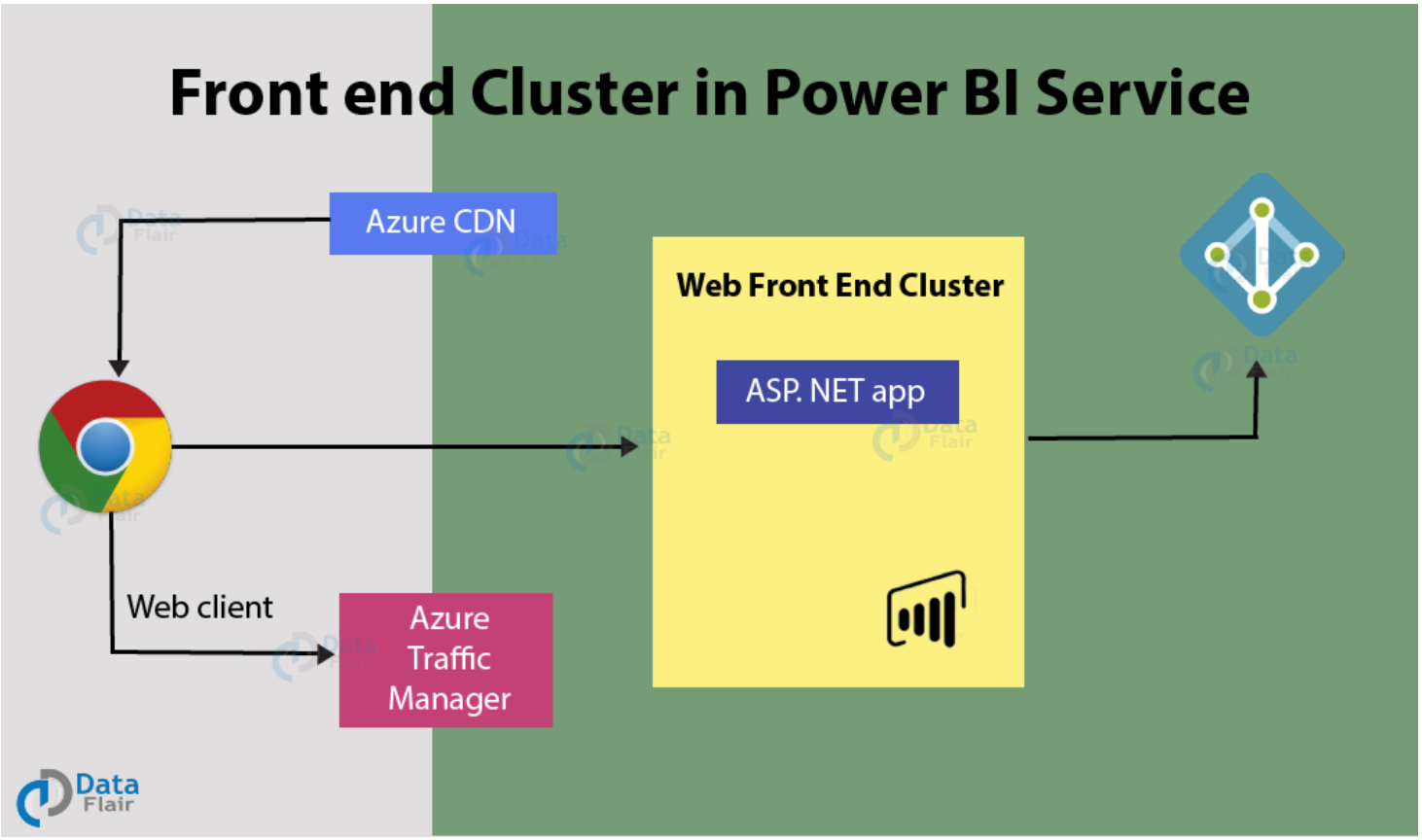
Ans- Web Front End plays crucial role in handling user interaction and handling Power BI interface. It serves as entry point for users accessing Power BI dashboard.

Features of Web Front End in Power BI Service Architecture

a) User Interaction- WEF cluster receives user requests and interaction.

b) Load Balancing- to distribute incoming techniques to distribute incoming user requests across multiple servers.

c)Authentication and Authorization-WEF cluster handles user authentication and authorization when a user access Power BI.



d)Rendering and Visualization- WEF cluster processes user requests for dashboards and other visualizations

e) Caching and performance management- to improve performance and reduce user load

f) Session Management- WEF cluster manages user session and maintains state information

g) High availability and scalability-by employing multiple servers within a cluster.

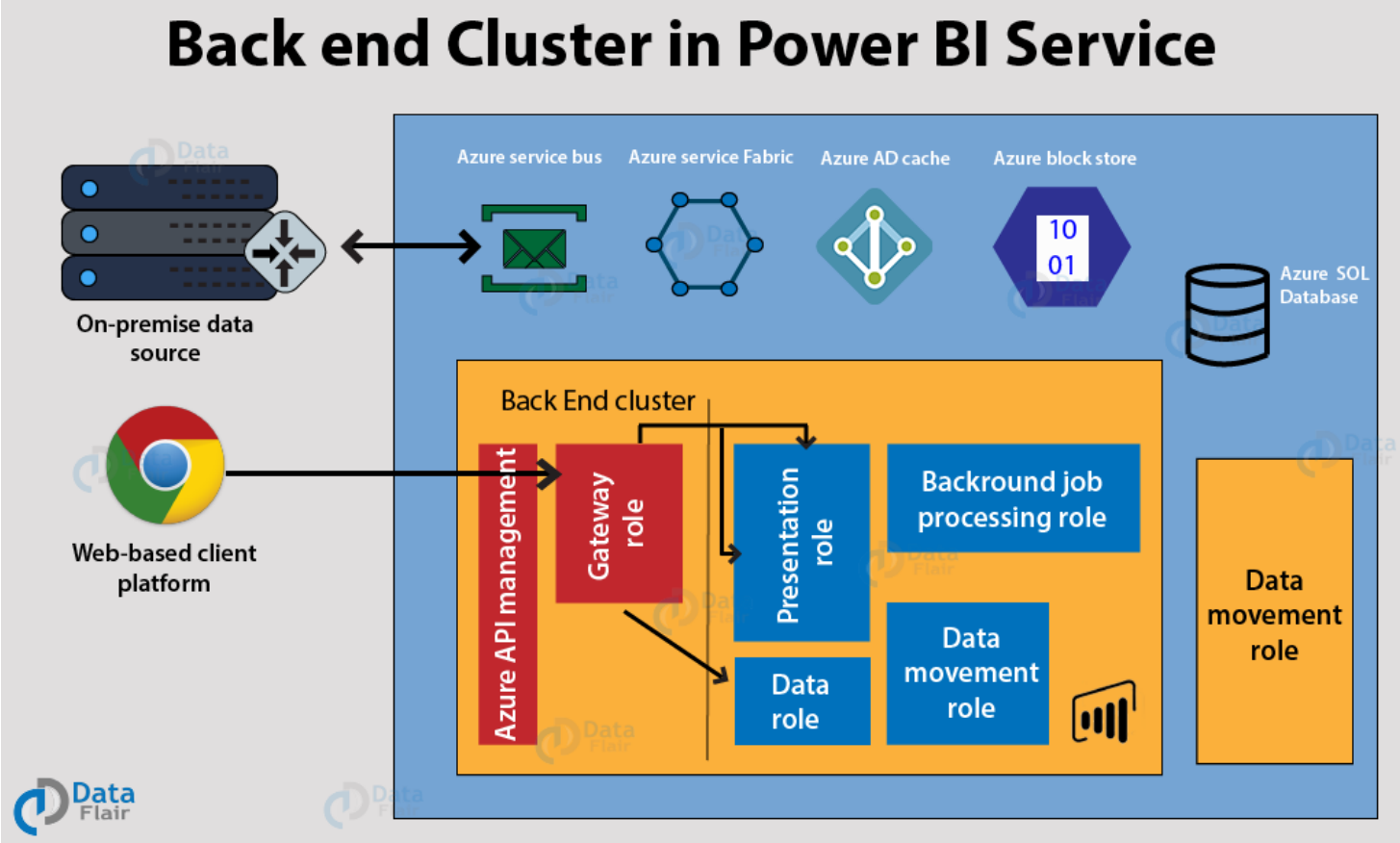
3. Explain Back End cluster from Power BI Service Architecture?

Ans- Back End cluster plays a critical role in processing and managing the data, metadata, and various services that power the Power BI Service. The Back End cluster consists of multiple components and services working together to provide data storage, processing, and management capabilities.

Features of Back End Cluster in Power BI Service Architecture

a)Data Storage- back end cluster includes storage system where data for Power BI workspaces, datasets, reports are stored.

b)Data Processing-back end cluster handles data processing tasks such as data refreshes, transformation and aggregations.



c)Metadata Management- back end cluster manages metadata related to Power BI assets, including datasets, reports and data connection.

d)Security and Access Control- back end cluster responsible for enforcing security measures.

e)Integration with External Services- by integration with external services and platforms.

f)Scalability and Performance-back end cluster designed for scalability and performance to handle the processing and storage needs.

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

Ans- ASP.NET plays crucial role in handling web application framework and server side processing.

ASP.NET components in Power BI Service Architecture

a)Web Application Framework- by providing necessary tools and infrastructure to develop, deploy and manage web applications.

b)Server Side Processing- related to user requests within Power BI Service.

c)Page Rendering- responsible for rendering web pages and visual elements.

d)Session Management- asp.net manages user sessions and maintains session state information.

e)Security-built in features for Power BI Service.

f)Integration with Power BI Services- this includes integration with Power BI API.

g)Scalability and Performance- designed to handle high loads.

5. Compare Microsoft Excel and PowerBi Desktop on the following features:
   Data import
   Data transformation
   Modeling
   Reporting
   Server Deployment
   Convert Models
   Cost

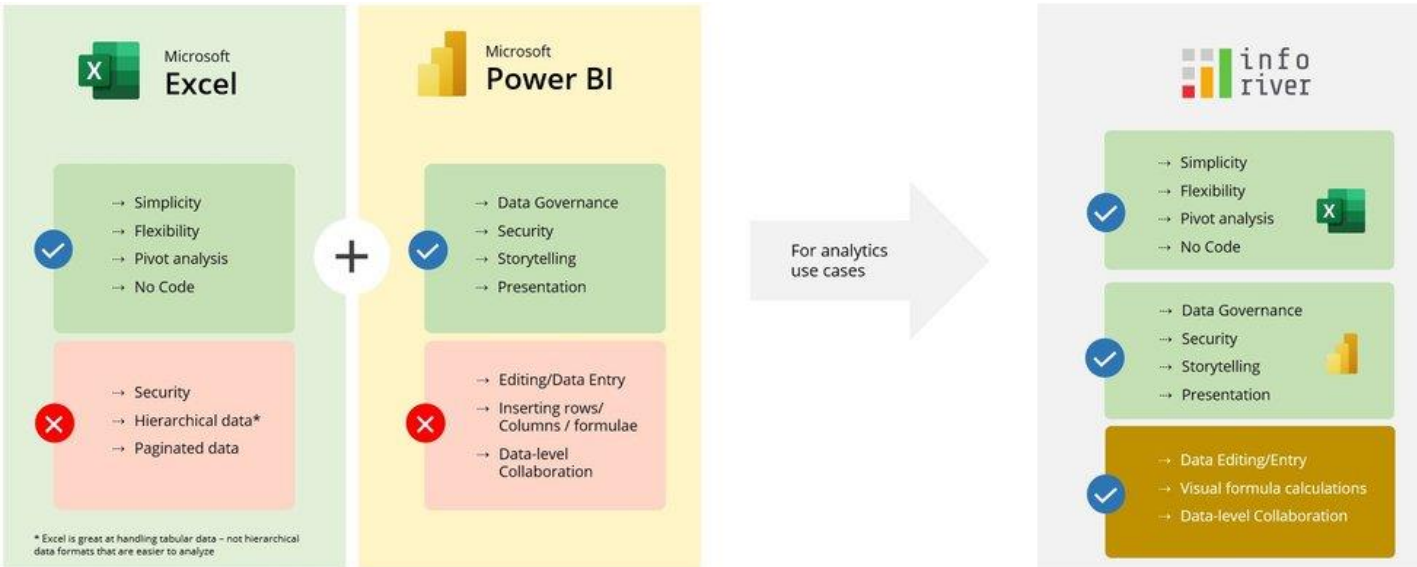
Ans- Microsoft Excel and Power BI desktop have several similarities and differences with respect to several features

a)Data Import- Power BI allows data import from wider range of sources along with advanced data connectivity options.

b)Data Transformation- Power BI provides more advanced data transformation facilities

c)Modeling- Power BI posses more advanced modelling capabilities, including creating relationships between tables, defining hierarchies, creating calculated columns and measures using DAX.

d)Reporting- Power Bi provides wider range of visualizations and advanced formatting options.



e)Server Deployment-Excel workbboks are typically shared as individual files, however Power BI reports can be published to Power BI service, enabling centralized management and collaboration.

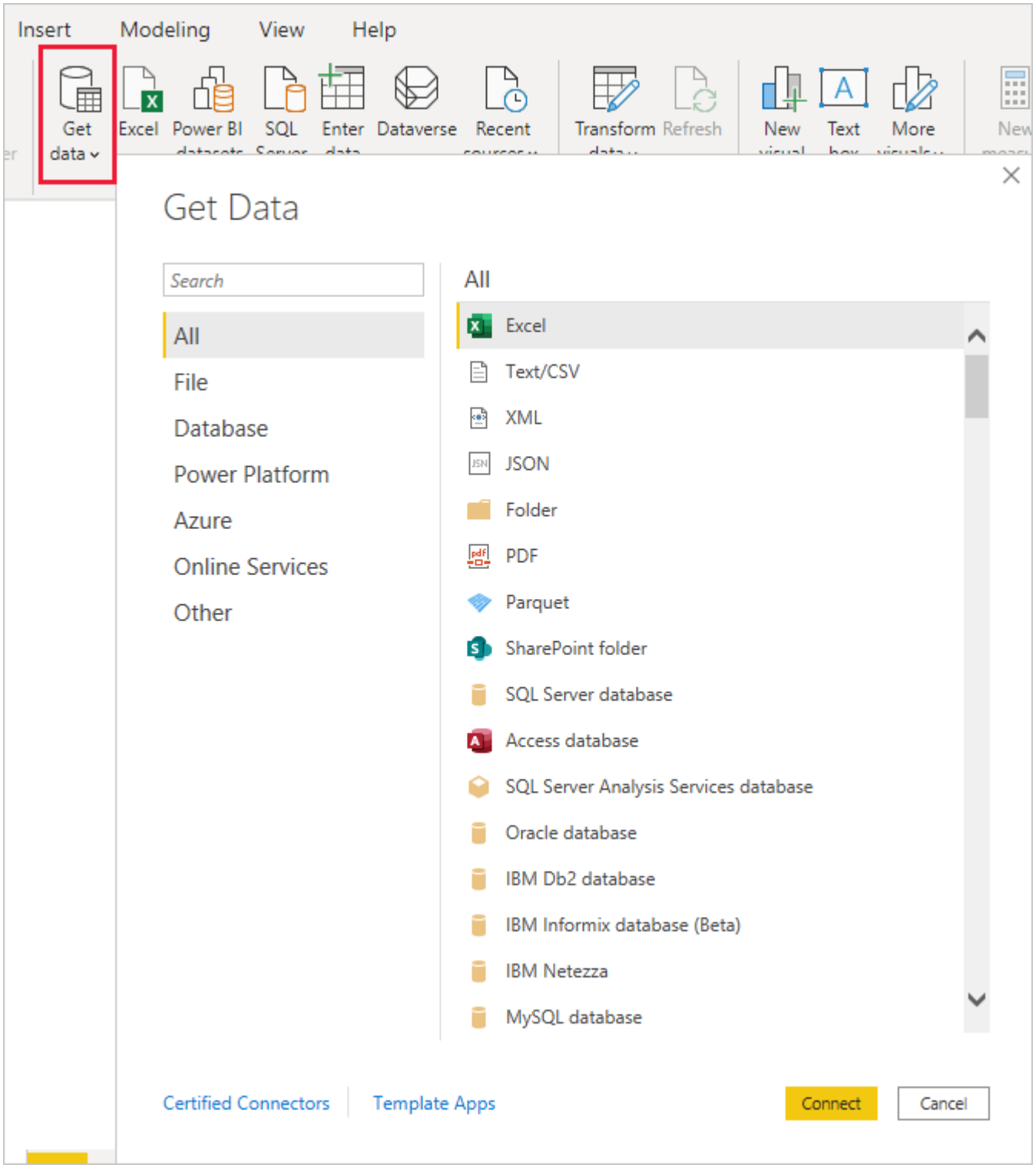
f)Convert Models- Excel models can be converted to Power Bi desktop model and vice versa.

g)Cost- Excel comes as a part of Microsoft Office, hence its individual cost is lower. Power Bi desktop is free but need to pay fee fee to access Power BI service.

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

Ans- Power BI desktop supports wide range of data sources. Here are list of 20 data sources

1) Excel workbook
2) CSV file



3) SQL server database
4) Azure SQL database
5) Oracle database
6) MySQL database
7) PostgreSQL database
8) Amazon Reshift
9) Salesforce
10) IBM DB2 database
11) Google Analytics
12) Power BI Service
13) Hadoop distributed file system
14) OData Feed
15) Web
16) Azure Blob Storage
17) Azure data lake storage
18) Dynamic 365
19) SharePoint Online
20) Google BigQuery database