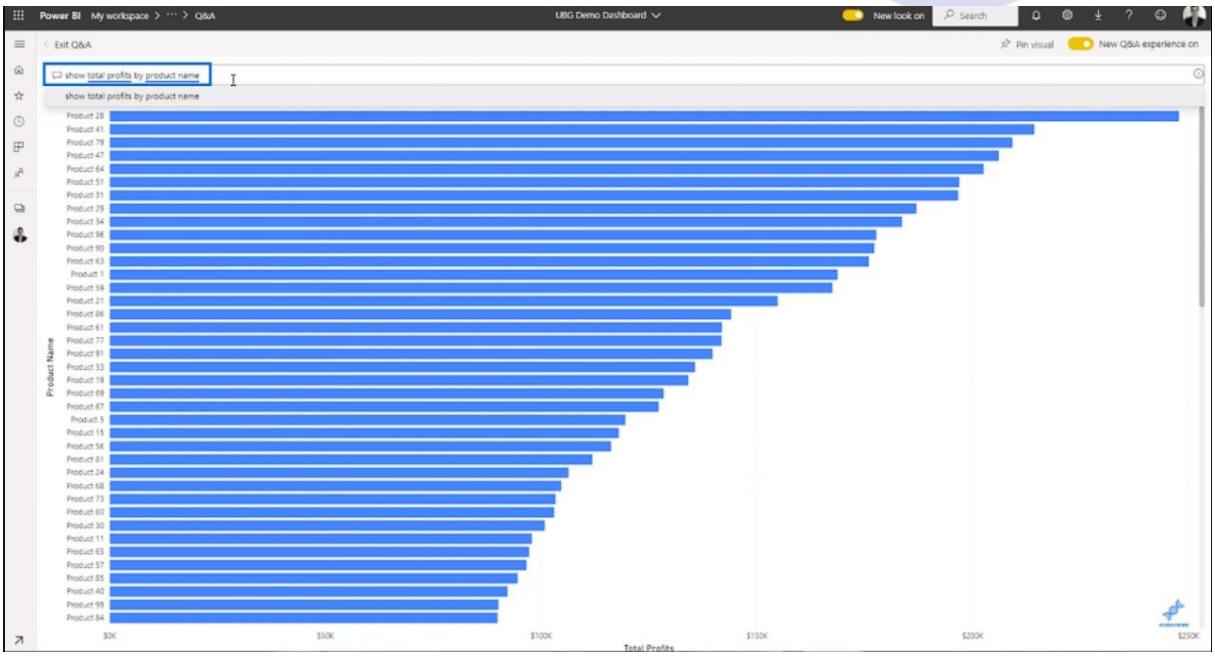
Power BI Assignment 2

1. Explain the advantages of Natural Queries in PowerBi with an example?
   Sometimes the fastest way to get an answer from your data is to perform a search over your data using natural language. The Q&A feature in Power BI lets you explore your data in your own words using natural language. Q&A is interactive, even fun. Often, one question leads to others as the visualizations reveal interesting paths to pursue. This is helpful for users who aren't technically inclined since they can access insights easily with this feature.
   In the dashboard, there is a search bar that says Ask a question about your data. You can find insights that might not exist in your report but exist in your model based on the measures you've already created.
   It's important to build your model well for instances like these. The Natural Language Query works best with a solid and detailed model.
   Naming conventions are crucial because they label your information as a basis.

   I'll type show total profits by product name in the search bar and the results will appear automatically. And it's retrieving this information based on the measure and column name that I typed in. Q&A uses them to search for the information I asked for.



   The Natural Language Query is an advanced feature that can find almost any insight.

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

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

4. What ASP.NET component does in Power BI Service Architecture?
   A WFE (Web Front End) cluster consists of an ASP.NET website running in the Azure App Service Environment. When users attempt to connect to the Power BI service, the client's DNS service may communicate with the Azure Traffic Manager to find the most appropriate (usually nearest) datacenter with a Power BI deployment. For more information about this process, see Performance traffic-routing method for Azure Traffic Manager.

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

   Data sources:

Category	Excel	Power BI
Files	7	8
Databases	11	37
Azure	7	17
Power BI	1	5
Online	5	52
Other	11	39
Total	42	158

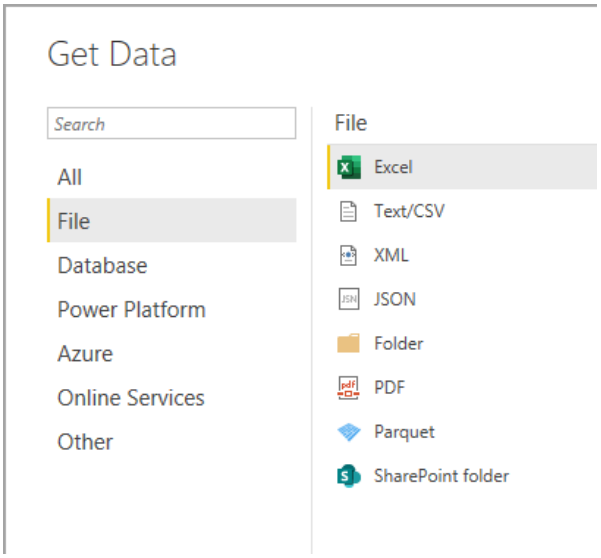
Feaetures	Excel	Power BI
Data import	Excel native import, Power Pivot, Power Query	Power Query, Power BI supports more data sources compared to Excel
Data transformation	Power Query	Power Query
Modeling	Power Pivot	Data and Models tabs
Reporting	Excel pivot reports, Power View, Power Map	Power BI reports (enhanced Power View reports)
Server deployment	SharePoint, Power BI Service, and Power BI Report Server	Power BI Service and Power BI Report Server
Convert models	Can't import Power BI Desktop models	Can import Excel Power Pivot models
Cost	Excel license	Free (freemium)

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

   The File category provides the following data connections:

   - Excel Workbook
   - Text/CSV
   - XML
   - JSON
   - Folder
   - PDF
   - Parquet
   - SharePoint folder

   The following image shows the Get Data window for File.



The **Database** category provides the following data connections:

- SQL Server database
- Access database
- SQL Server Analysis Services database
- Oracle database
- IBM Db2 database
- IBM Informix database (Beta)
- IBM Netezza
- MySQL database
- PostgreSQL database
- Sybase database
- Teradata database
- SAP HANA database
- SAP Business Warehouse Application Server
- SAP Business Warehouse Message Server
- Amazon Redshift
- Impala
- Google BigQuery
- Google BigQuery (Azure AD)(Beta)
- Vertica
- Snowflake
- Essbase
- Actian (Beta)
- Amazon Athena

And many more that we can find on the following link:
https://learn.microsoft.com/en-us/power-bi/connect-data/desktop-data-sources