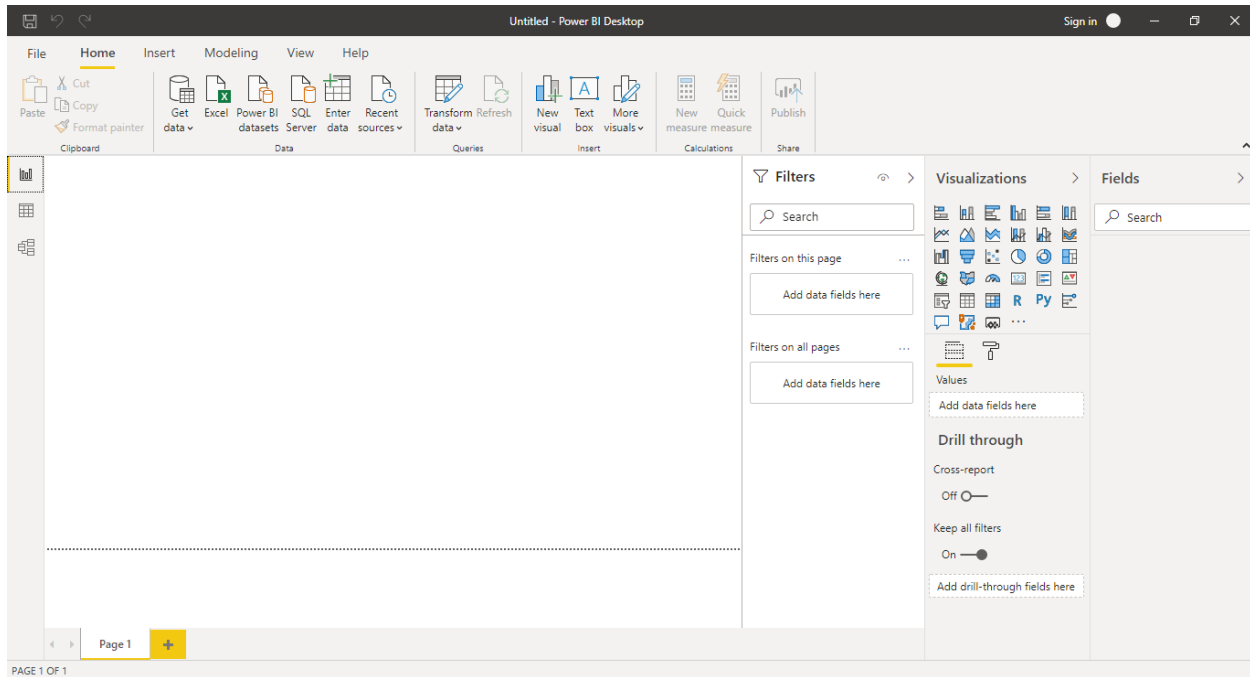


Assignment – 1

1. Install Power BI Desktop and share the final screenshot of the report view page which appears when power desktop starts.



2. Prepare a document and with the following screenshot
 - Report View
 - Data View
 - Model View
 - Power Query Editor
 - Advance Editor

Power BI is a business analytics service offered by Microsoft. It aims to provide interactive visualizations and business intelligence capabilities with an interface simple enough for end users to create their own reports and dashboards as per their business needs (situations demand).

Power BI provides cloud-based BI (business intelligence) services, known as "Power BI Services", along with a desktop-based interface, called "Power BI Desktop". It offers data warehouse capabilities including data preparation, data discovery and interactive dashboards. In March 2016, Microsoft released an additional service called Power BI Embedded on its Azure cloud platform. One main differentiator of the product is the ability to load custom visualizations.

Power BI Product (Variant) – Power BI ecosystem consists of the following components:

Power BI Desktop: The Windows-desktop-based application for PCs and desktops, primarily for designing and publishing reports to the Service.

Power BI Service: The SaaS (software as a service) based online service (formerly known as Power BI for Office 365, now referred to as PowerBI.com (or simply Power BI).

Power BI Mobile Apps: The Power BI Mobile apps for Android and iOS devices, as well as for Windows phones and tablets.

Power BI Gateway: Gateways used to sync external data in and out of Power BI. In Enterprise mode, can also be used by Flows and PowerApps in Office 365.

Power BI Embedded: Power BI REST API can be used to build dashboards and reports into the custom applications that serves Power BI users, as well as non-Power BI users.

Power BI Report Server: An On-Premises Power BI Reporting solution for companies that will not or cannot store data in the cloud-based Power BI Service.

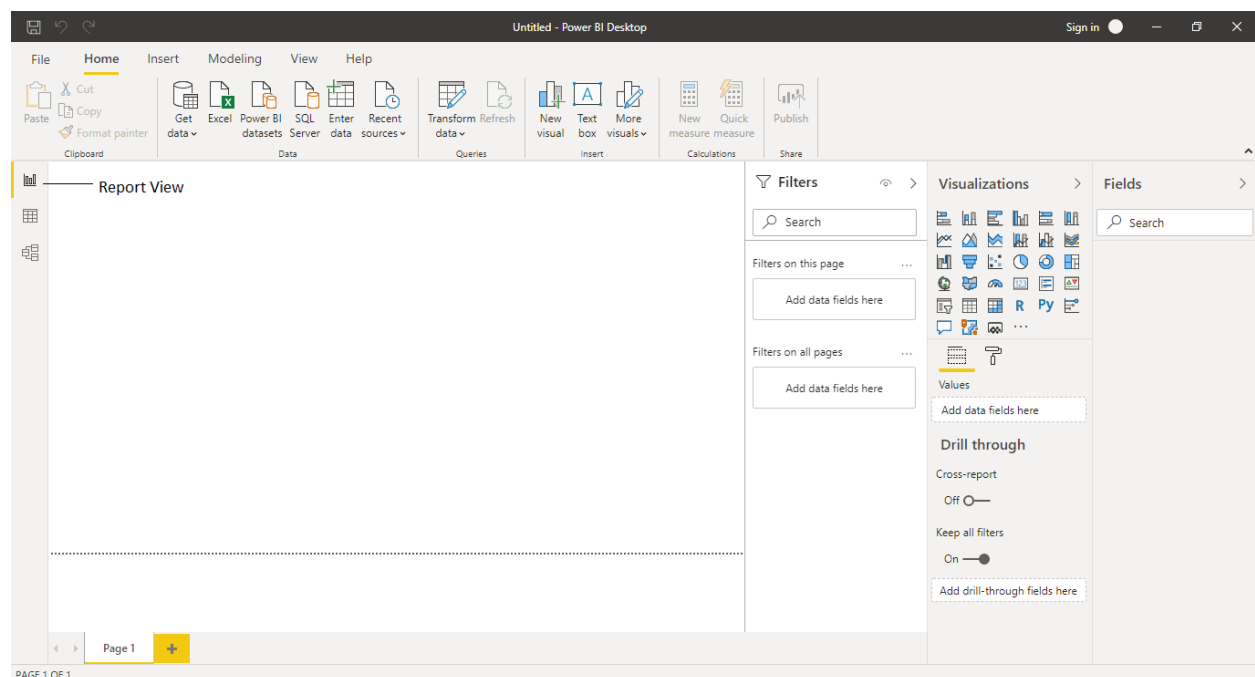
Power BI Visuals Marketplace: A marketplace of custom visuals and R-powered visuals.

Power BI Component:

- Report View: Power BI Desktop includes a Report view, where we can create any number (As per business demands) of report pages with visualizations. Report view in Power BI Desktop provides a similar design experience to the report's editing view in the Power BI service. We can move visualizations around, copy and paste, merge, and so on.

The difference between them is when using Power BI Desktop, we can work with our queries and model our data to make sure our data supports the best insights in our reports. We can then save our Power BI Desktop file wherever we like, whether it is our local drive or to the cloud.

When we first load data in Power BI Desktop, we will see the Report view with a blank canvas. We can switch between **Report**, **Data**, and **Relationship** views by selecting the icons in the left-hand navigation pane:



- **Data View:** It helps us to inspect, explore, and understand data in our Power BI Desktop model. It is different from how we view tables, columns, and data in Power query Editor. With Data view, we can able to view our data after it has been loaded into the model.

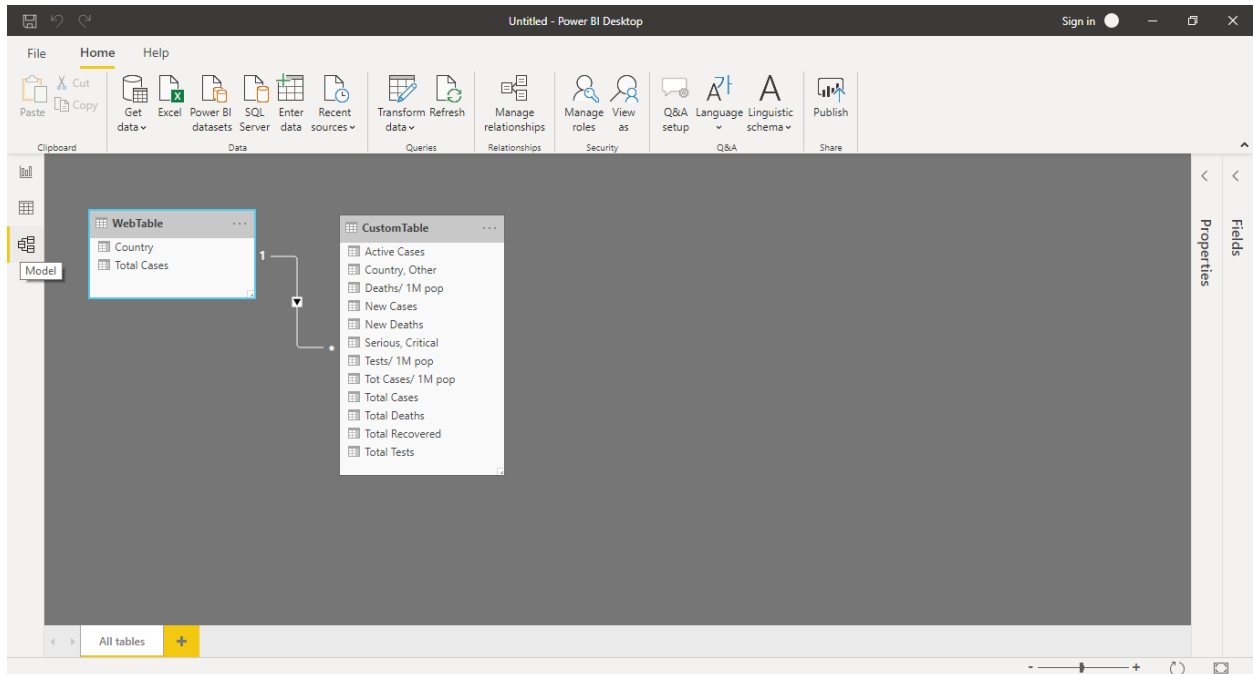
When we are modeling our data, sometimes we want to see what is in a table or column without creating a visual on the report canvas. We might want to see right down to the row level. This ability is especially useful when we are creating measures and calculated columns, or we need to identify a data type or data category.

Here is the closer look of the Data view.

The screenshot shows the Power BI Desktop interface with the Data View selected. The main area displays a table with 15 columns and 28 rows of data. The columns represent various COVID-19 metrics, and the rows list different countries and territories. The right-hand pane shows the 'Fields' list with 'CustomTable' and 'WebTable' available.

Country, Other	Total Cases	New Cases	Total Deaths	New Deaths	Total Recovered	Active Cases	Serious, Critical	Tot Cases/ 1M pop	Deaths/ 1M pop	Total Tests	Tests/
Saint Martin	39		3		30	6	1	1009	78		
Eritrea	39				38	1		11			
Zimbabwe	36		4		9	23		2	0.3	20537	
Antigua and Barbuda	25		3		19	3	1	255	31	183	
Botswana	24		1		17	6		10	0.4	11495	
Timor-Leste	24				21	3		18		738	
Gambia	22		1		10	11		9	0.4	1238	
Grenada	21				13	8	4	187		1406	
Laos	19				13	6		3		3874	
Belize	18		2		16	0		45	5	1043	
Fiji	18				14	4		20		1300	
New Caledonia	18				18	0		63		5454	
Saint Lucia	18				17	1		98		620	
St. Vincent Grenadines	17				12	5		153		155	
Curaçao	16		1		14	1		98	6	389	
Dominica	16				15	1		222		420	
Namibia	16				11	5		6		1543	
Burundi	15		1		7	7		1	0.08	284	
Saint Kitts and Nevis	15				14	1		282		327	
Falkland Islands	13				13	0		3736		402	
Turks and Caicos	12		1		8	3		310	26	109	
Vatican City	12				2	10		14981			
Comoros	11		1			10		13	1		

- **Model View:** It shows us all the tables, columns, and relationships in our model. This view can be especially helpful when our model has complex relationships between many tables. Select the model icon near the side of the window to see a view of the existing model. Hover our cursor over relationship line to show the columns that are used.



3. Prepare a document with details of the following along with their price.

- Power BI Desktop
- Power BI Pro
- Power BI Premium

Power BI is a cloud-based data examination, which can utilize for revealing and data investigation from an extensive variety of data source. Power BI is straightforward and easy to use enough that business examiners and power clients can work with it and get advantages of it. Then again Power BI is ground-breaking and develops enough that can utilize as a part of big business frameworks by BI engineers for complex data concoction and display situations.

Power BI Components: Power BI Components made of 6 primary parts. Power BI fabricated simple graphical UIs to take after, so a business client essentially could client Power Query or Power BI work area to squash up the data without composing even a solitary line of code. It is then again so ground-breaking with control question recipe dialect (M) and data investigation articulation (DAX) that each designer can compose complex codes for data squash up and figured measures to react testing necessities.

Power BI Components can utilize separately or in a (Group) blend. Power Query has an include for Excel 2010 and Excel 2013, and it is inserted in Excel 2016. It includes for Power Query is accessible for nothing! for everybody to download and utilize it nearby with existing an Excel (if it is Excel 2010 or higher adaptations). Pivot has been as an include for Excel 2010, from Excel 2013 Power Pivot is implanted in Excel, this include is again allowed to utilize! Power View is an include for Excel 2013, and it is free to utilize once more. Microsoft Power Map is an include for Excel 2013, it is inserted in Excel 2016 as 3D maps.

Power Query

Power Query is one of the important Power BI Components. Which is data change and blends motor. It can download as an include for Excel or utilize as a component of Power BI Desktop. With Power Query, we can remove data from a wide range of data sources. We can read data from databases. For example, **SQL Server**, Oracle, MySQL, DB2, and numerous different databases. We can bring data from records, for example, CSV, Text, Excel. We can even circle through an organizer. We can utilize Microsoft Exchange, Outlook, Azure... as a source. We can associate with Facebook as source and numerous different applications. We can utilize online inquiry or utilize a web deliver as the source to get the data from that site page. Microsoft Power Query gives us a graphical UI to change data as per our requirement, including segments, evolving types, changes in date and time, content, and numerous different tasks are accessible. Power Query can stack the outcome set into Excel or into Power Pivot demonstrate.

Power Pivot

Power Pivot is data demonstrating motor which takes a shot at xVelocity In-Memory based forbidden motor. The In-Memory motor gives Power Pivot super quick reaction time and the demonstrating motor would give us an awesome place to fabricate our star composition, ascertained measures and segments, construct connections through elements et cetera. Power Pivot utilizes **Data Analysis eXpression** dialect (**DAX**) for building measures and ascertained segments. Power BI DAX is an intense useful dialect, and there are piles of capacities for that in the library. We will experience points of interest of Power Pivot demonstrating and DAX in future parts. Screen capture beneath demonstrates the relationship chart of Power Pivot.

Power View

The fundamental data visualization segment of Power BI is Power View. It is an intuitive data visualization that can interface with data sources and bring the metadata to utilize for data examination. Power View has numerous outlines for visualization in its rundown. Power View gives us the capacity to channel data for every datum visualization component or for the whole report. We can utilize slicers for better cutting and dice the data. Power View reports are intuitive, a client can feature some portion of the data and distinctive components in Power View converse with each other. There are numerous arrangements in Power View visualization that I will clarify completely in future parts.

Power Map

Power Map is for imagining Geospatial data in 3D mode. At the point when visualization renders in 3D mode, it will give us another measurement in the visualization. We can envision a measure as the stature of a section in 3D, and another measure as heatmap see. We can feature data in view of the Geographical area, for example, nation, city, state, and road address. Power Map works with Bing maps to get the best visualization considering Geographical either scope and longitude or nation, state, city, and road address data. Power Map is an include for Excel 2013 and implanted in Excel 2016.

Power BI Desktop

The desktop is the freshest part in Power BI suite. Power BI Desktop is an all-encompassing improvement instrument for Query, Power Pivot and Power View. With Power BI Desktop we will have everything under the same arrangement, and it is less demanding to create BI and data examination involvement with that. Power BI Desktop refreshes much of the time and frequency. This item has been in see mode for a timeframe with a name of Power BI Designer.

Power BI Website

Power BI arrangement can distribute to Power BI site. In Power BI site the data source can book to invigorate (relies upon the source and is it supporting for plan data revive or not). Dashboards can make for the report, and it can impart to others. Power BI site even enables us to cut up the data online without requiring some other devices, only a basic internet browser. We can assemble report and visualizations straightforwardly on Power BI site too. screen capture beneath demonstrates a perspective of Power BI site and dashboards worked there.

Power Q&A

Power Q&A is a characteristic dialect motor for inquiries and answers to our data demonstrate. Once we have assembled our data display and conveyed that into Power BI site, at that point we or our clients can make inquiries and find solutions effortlessly. There are a few hints and traps about how to construct our data display so it can answer inquiries in the most ideal way which will shroud in future sections. Power Q&A and works with Power View for the data visualizations. So, clients can essentially make inquiries, for example, Number of Customers by Country, and Power Q&A will answer their inquiry in a guide see with numbers as air pockets.

Power BI Mobile Apps

There are versatile applications for three principle portable OS suppliers: Android, Apple, and Windows Phone. These applications give us an intelligent perspective of dashboards and reports in the Power BI site. We can share them even from a versatile application. We can feature some portion of the report, compose a note on it and offer it to others.

Power BI Components – Pricing

Power BI give these top-notch administrations to free! We can make our record in PowerBI.com site quite recently for nothing. Numerous segments of Power BI can utilize independently for nothing too. We can download and introduce Power BI Desktop, Query include, Power Pivot include, Power View include, and Power Map include for nothing. There are a few highlights of these items that held for paid form that as it may. For example, Power BI Pro which gives us some more highlights of the item.

Power BI	Desktop	Pro	Premium
Licensing differences			
Included with Office 365 Enterprise E5		Yes	Upgradable from Pro
Licensed per user		Yes	

Licensed by dedicated cloud compute and storage resources			Yes
Deployment and administration			
On-premises reporting through Power BI Report Server			Yes
On-premises reporting through Power BI Report Server			Yes
Compute processing environment		Shared	Dedicated
Deploy Power BI content to multiple regions			Yes
Incremental data refresh			Yes
Publish reports to be shared		Yes	
Widespread distribution of content without requiring a Power BI Pro license for content consumers			Yes
Publish and consume paginated reports in Power BI			Yes
Allocate compute resources			Yes
Monitor performance of dedicated compute and memory resources			Yes
Maximum size of individual dataset		1G	10G
Maximum storage		10 G per user	100 TB
Maximum number of automatic refreshes per day		8	48
Store Power BI data to Azure Data Lake Storage Gen2			Yes
Deployment, administration, compliance, and security			
Cloud service		Yes	Yes
Select a chosen home region datacenter for our data processing environment		Yes	Yes
Monitor content creation, consumption, and publishing with user metrics		Yes	Yes
Data security and encryption		Yes	Yes
Meets industry, global, regional, and government certifications		Yes	Yes
Available in Microsoft national clouds		Yes	Yes
Data prep, modeling, and visualization creation			
AI-powered data modeling using AutoML, Cognitive Services, and Azure Machine Learning		No	Yes
Creation of data visualizations, reports, and dashboards		Yes	Yes
Standard and big data prep and ETL		Yes	Yes

Access to a library of Power BI visuals and the custom visual SDK		Yes	Yes
Access to data connectors for cloud and on-premises data sources		Yes	Yes
Out-of-the-box visualizations, themes, and personalization options		Yes	Yes
Content consumption			
Paginated reports provide fixed-layout documents optimized for printing and archiving		No	Yes
Analyze data in Microsoft Excel		Yes	Yes
Embed content in other interfaces like Teams, SharePoint, and other SaaS applications		Yes	Yes
View and interact with Power BI content		Yes	Yes
View and interact with Power BI content through the Power BI mobile app for iOS, Android, and Windows		Yes	Yes
Ask questions about data to get immediate answers and personalize definitions so Power BI understands our business language including acronyms.		Yes	Yes
Subscribe to reports for notifications about changes		Yes	Yes
View Power BI content in other interfaces		Yes	Yes
Power BI Pricing			
Cost	₹0.00 Monthly price	₹660.00 Monthly price per user	₹330,190.00 Monthly price per dedicated cloud compute and storage resource with annual subscription