



ASSIGNMENT 1

Data Visualization

Abstract

The capability to visualize data has become an essential tool for businesses to transform information into insights that drive meaningful outcomes and improve experiences. Despite having accumulated vast amounts of data from various areas of their operations, many organizations are unable to harness this data to make better decisions, take actions, and achieve desired results.

In this Project we will review the data workbook and become familiar with the data contained therein. In addition, we will be using Tableau to create a visual report that presents the data in the form of charts and maps that meet the client's requirements. It is also important to consider data protection and computer misuse policies when working with this data.

Sabbir Rahman

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Task 1

Policies and Procedures

A data protection policy (DPP) is a security policy that aims to standardize the use, monitoring, and management of data in order to protect and secure all data consumed, managed, and stored by an organization. While it is not required by law, it is commonly used to help organizations comply with data protection standards and regulations.

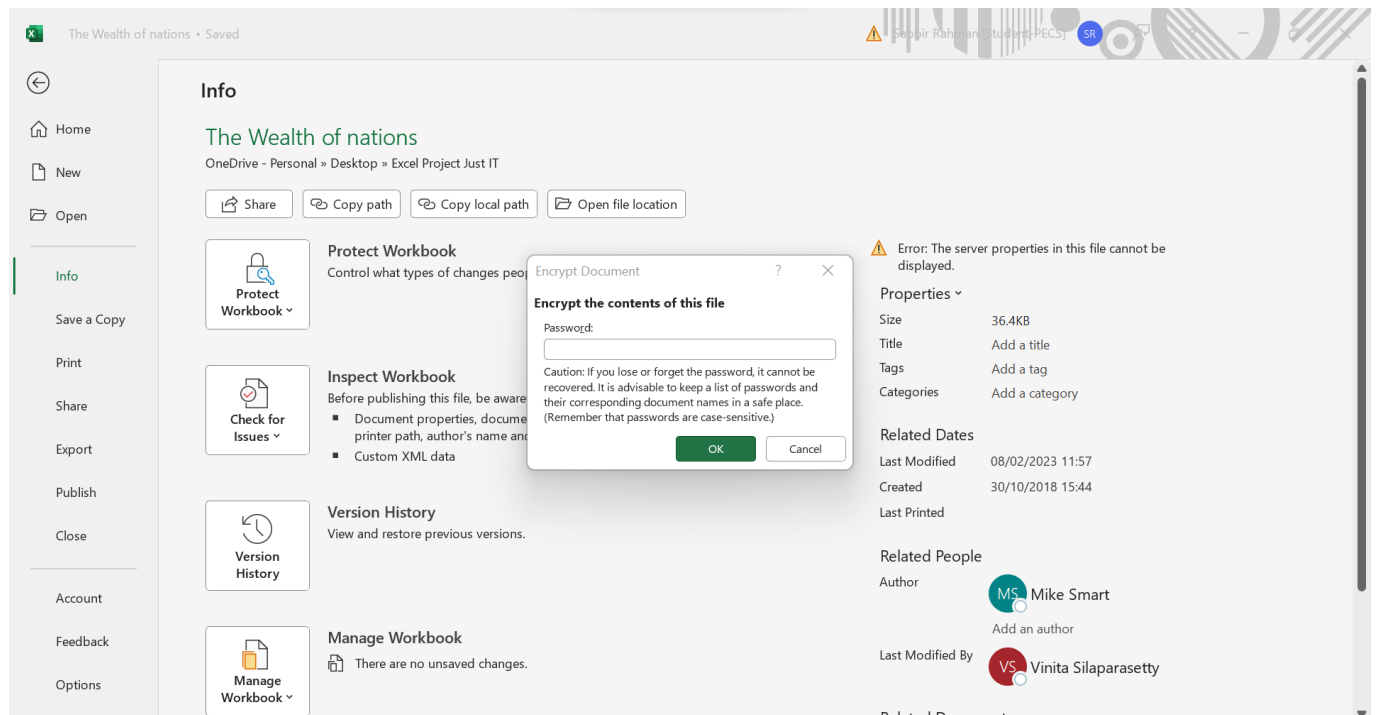
A DPP should cover various aspects including lawfulness, fairness, and transparency; purpose limitation; data minimization; accuracy; integrity and confidentiality (security); accountability; the scope of required data protection; data protection techniques and policies applied by relevant parties such as individuals, departments, devices, and IT environments; any applicable legal or compliance requirements for data protection; and the roles and responsibilities related to data protection, including data custodians and roles specifically responsible for data protection activities.

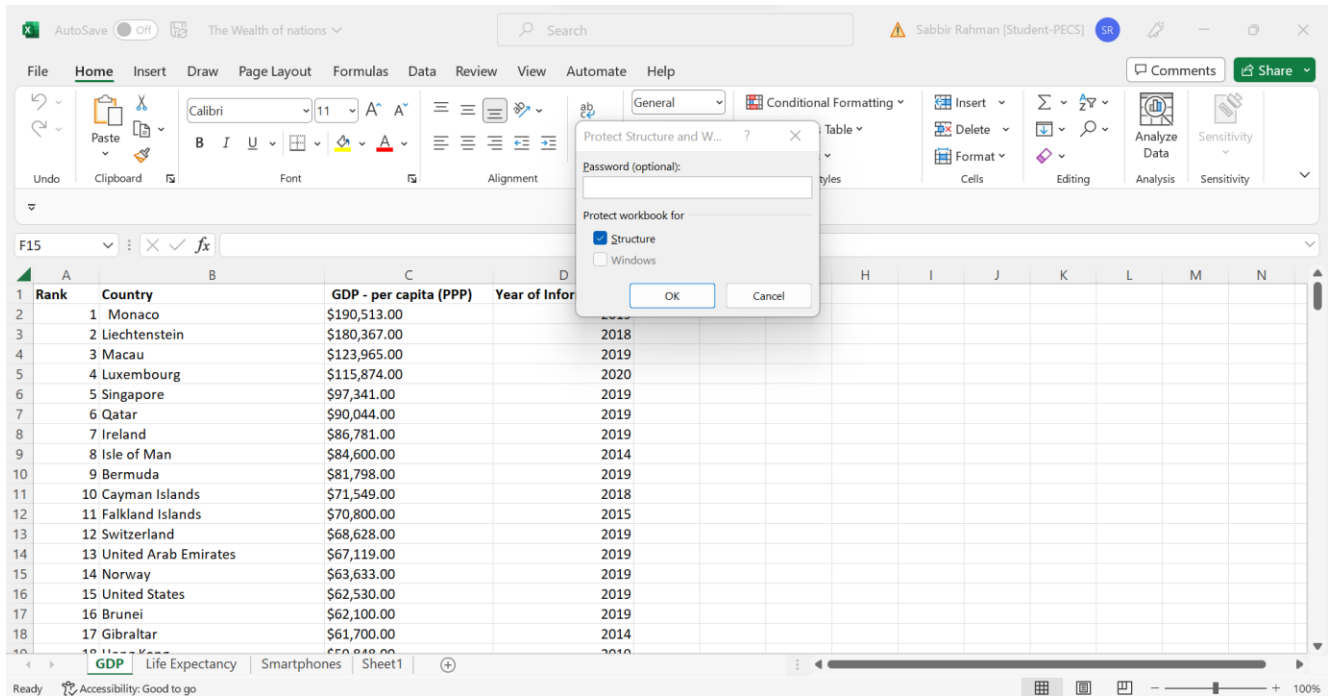
In this particular project, 'The Wealth of Nations' data is being used, which is important and related to different nations' economies. Therefore, it is essential to adhere to the data protection procedures and policies in order to protect and secure this data. As a Data Analyst, it is important to be aware of all the procedures and policies related to data protection as data analysts frequently deal with data collection, verification, cleaning, and storage of different types of data. Following the rules and procedures for handling sensitive and economic data is crucial. Secure storage media is important for protecting data when it is not being analyzed, but it is also essential to follow practices that keep data secure while it is being analyzed. Ultimately, the researcher is responsible for appropriate use and storage of their research data.

Task 2

GDP Task (Excel)

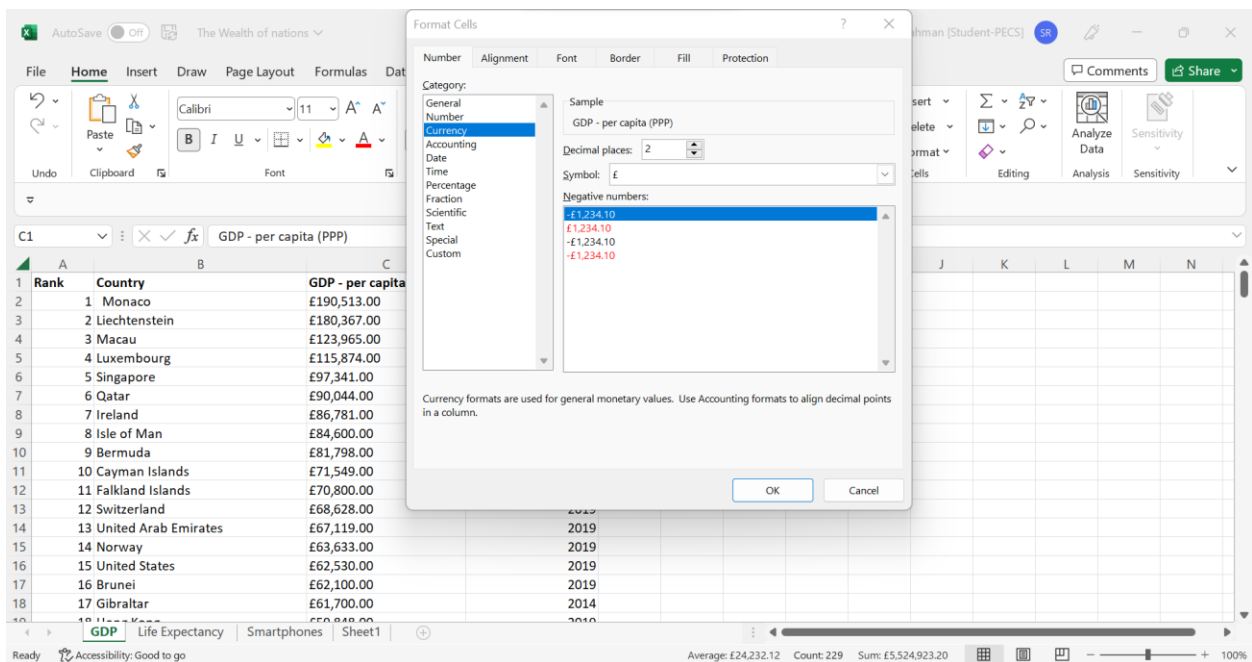
2.1 Set a password to protect the workbook.





2.2 Change format

Highlight column C and change the data to display in British Pound symbol.



2.3 Turn the GDP sheet into a table.

The screenshot shows the Microsoft Excel interface with the 'GDP' sheet selected. The data is organized as follows:

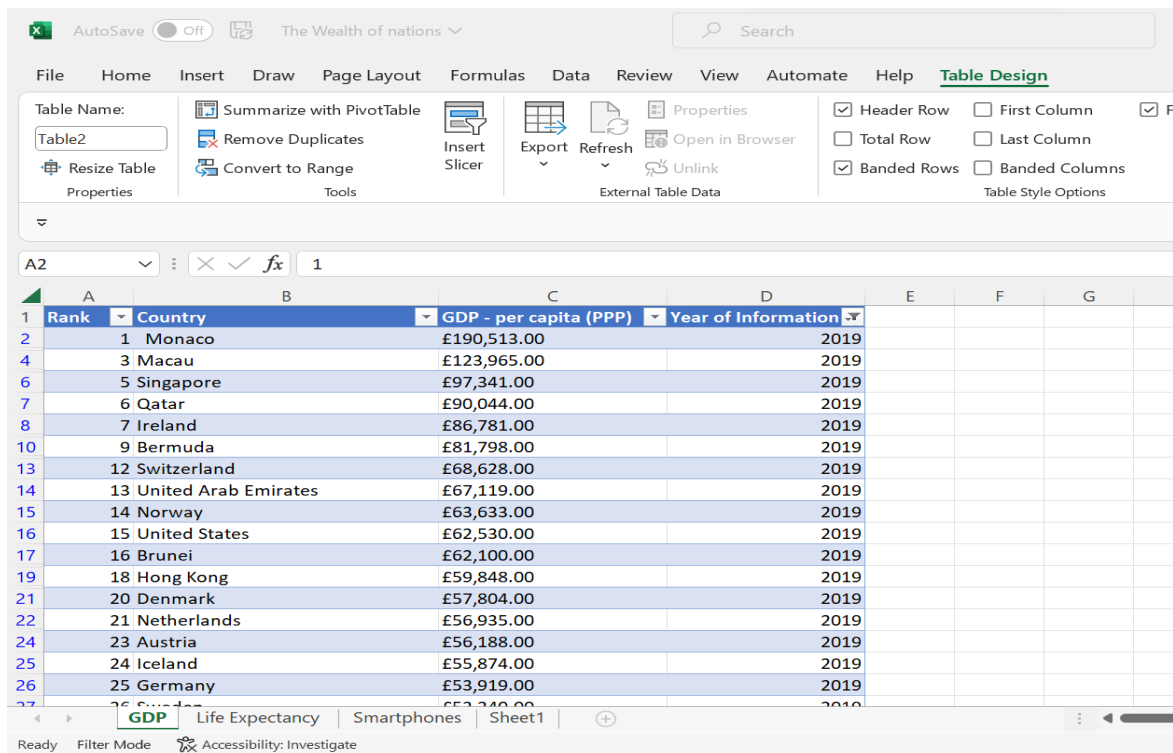
Rank	Country	GDP - per capita (PPP)	Year of Information
1	Monaco	£190,513.00	
2	Liechtenstein	£180,367.00	
3	Macau	£123,965.00	
4	Luxembourg	£115,874.00	
5	Singapore	£97,341.00	2020
6	Qatar	£90,044.00	2019
7	Ireland	£86,781.00	2019
8	Isle of Man	£84,600.00	2014
9	Bermuda	£81,798.00	2019
10	Cayman Islands	£71,549.00	2018
11	Falkland Islands	£70,800.00	2015
12	Switzerland	£68,628.00	2019
13	United Arab Emirates	£67,119.00	2019
14	Norway	£63,633.00	2019
15	United States	£62,530.00	2019
16	Brunei	£62,100.00	2019
17	Gibraltar	£61,700.00	2014
18	United Kingdom	£58,818.00	2019

The 'Create Table' dialog box is open, asking 'Where is the data for your table?' with the range '\$A\$1:\$D\$229' entered. The checkbox 'My table has headers' is checked. The status bar at the bottom shows 'Average: 8788.308772 Count: 916 Sum: 6011203.2'.

2.4 Filter the table to display only the information for 2019

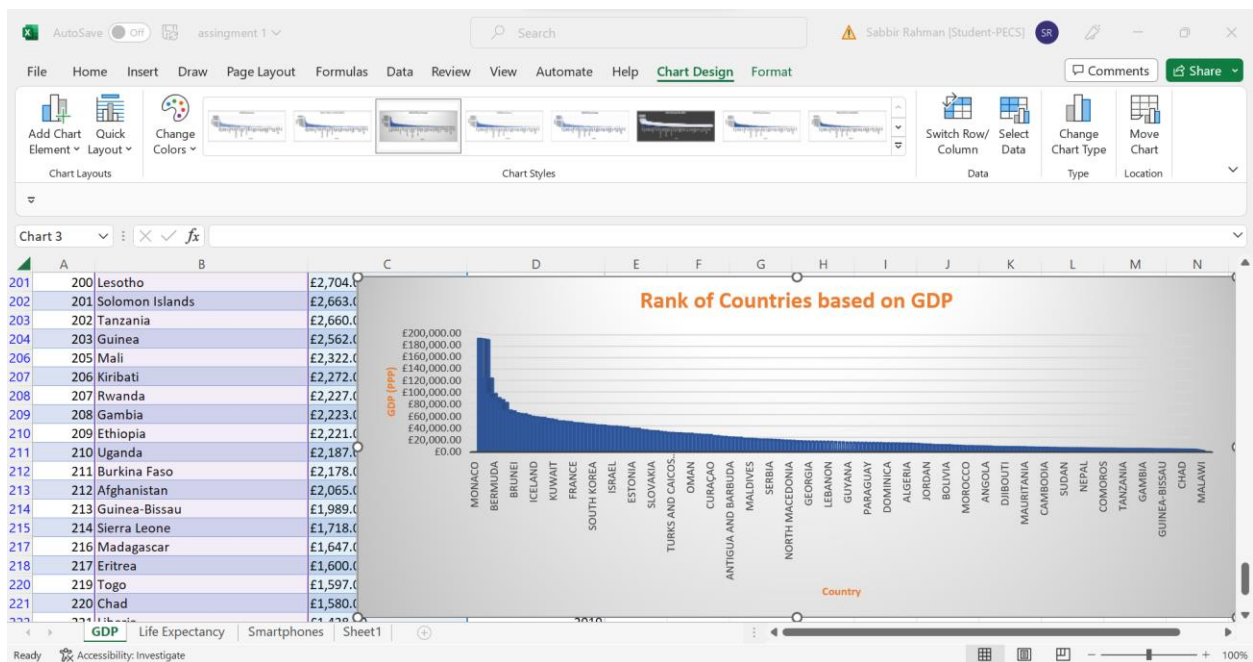
The screenshot shows the 'Filter by Color' dialog box. The 'Year of Information' column is selected for filtering. The 'Filter by Color' section is expanded, showing a list of years with checkboxes. The year 2019 is selected.

Sort Smallest to Largest
Sort Largest to Smallest
Sort by Color
Sheet View
Clear Filter From "Year of Information"
Filter by Color
Number Filters
Search
2008
2014
2015
2016
2017
2018
☒ 2019
2020
OK
Cancel



2.5 Create Chart

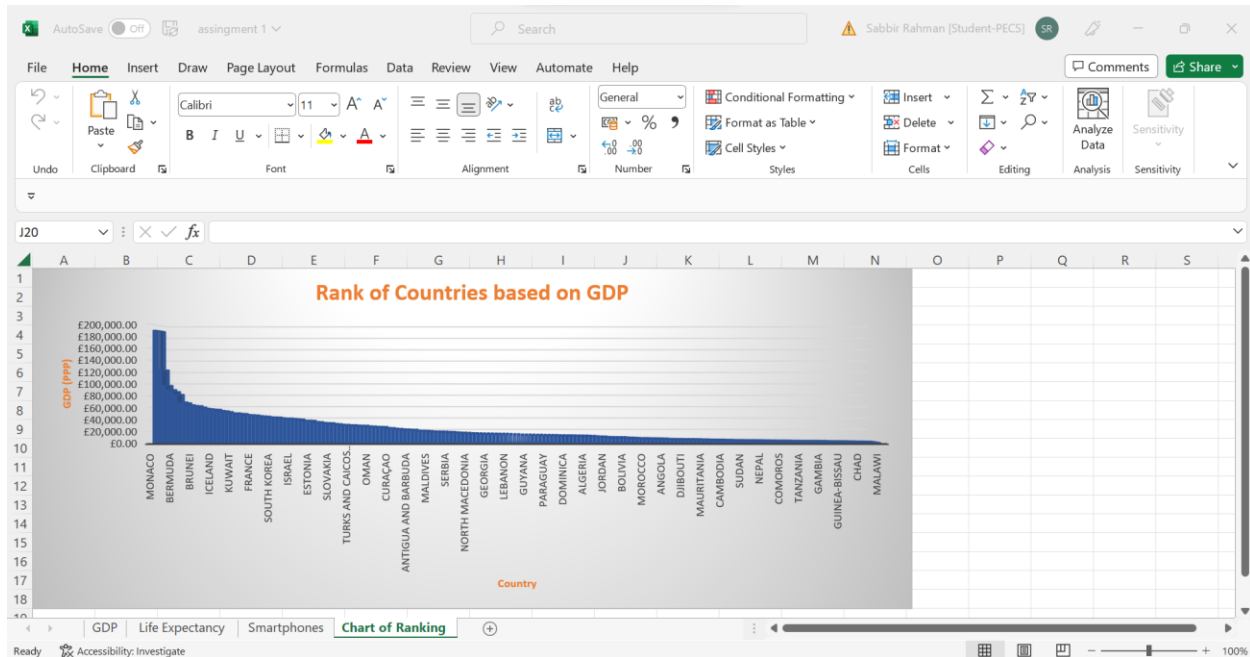
Next create a chart that will only display the following data 'Rank, Country and GDP - per capita (PPP)'. The chart can be anything as long as it is suitable.



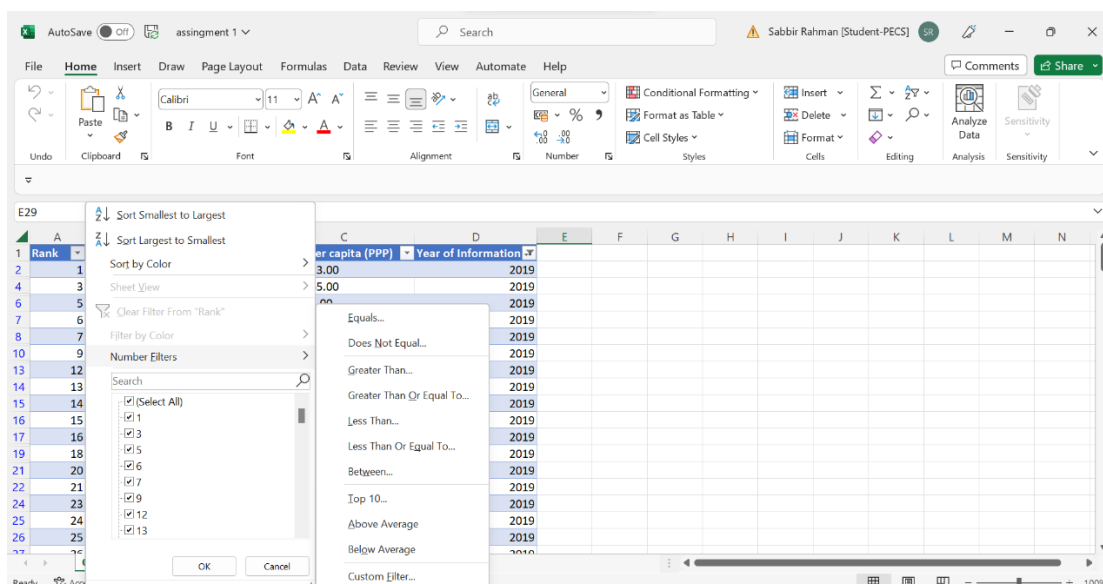
2.6 Personalize Chart

Using creative skills edit the chart:

- Add a title
- Add X and Y axis labels Bar charts only
- Make the chart visually pleasing
- Move the chart to a new sheet tab and label with a suitable name



2.7 Create a sort for the top 20 highest ranking counties



AutoSave Off assignment 1 Search Sabbir Rahman [Student-PECS]

File Home Insert Draw Page Layout Formulas Data Review View Automate Help Table Design

Undo Clipboard Font Conditional Formatting Insert Delete Cells Editing

Custom Autofilter

Show rows where:

Rank

is less than or equal to 20

And Or

Use ? to represent any single character
Use * to represent any series of characters

OK Cancel

Rank	Country	GDP - per capita
1	Monaco	£190,513.00
3	Macau	£123,965.00
5	Singapore	£97,341.00
6	Qatar	£90,044.00
7	Ireland	£86,781.00
9	Bermuda	£81,798.00
12	Switzerland	£68,628.00
13	United Arab Emirates	£67,119.00
14	Norway	£63,633.00
15	United States	£62,530.00
16	Brunei	£62,100.00
18	Hong Kong	£59,848.00
20	Denmark	£57,804.00
21	Netherlands	£56,935.00
22	Austria	£56,188.00
23	Iceland	£55,874.00
24	Germany	£53,919.00

Ready Filter Mode Accessibility: Investigate

AutoSave Off assignment 1 Search Sabbir Rahman [Student-PECS]

File Home Insert Draw Page Layout Formulas Data Review View Automate Help Table Design

Undo Clipboard Font Alignment Number Styles Cells Editing Analysis Sensitivity

Comments Share

Calibri 11 A A

B I U Font Color Background Color

General Conditional Formatting Format as Table Delete Format Cell Styles

Sum ZY

Analyze Data Sensitivity

Analysis Sensitivity

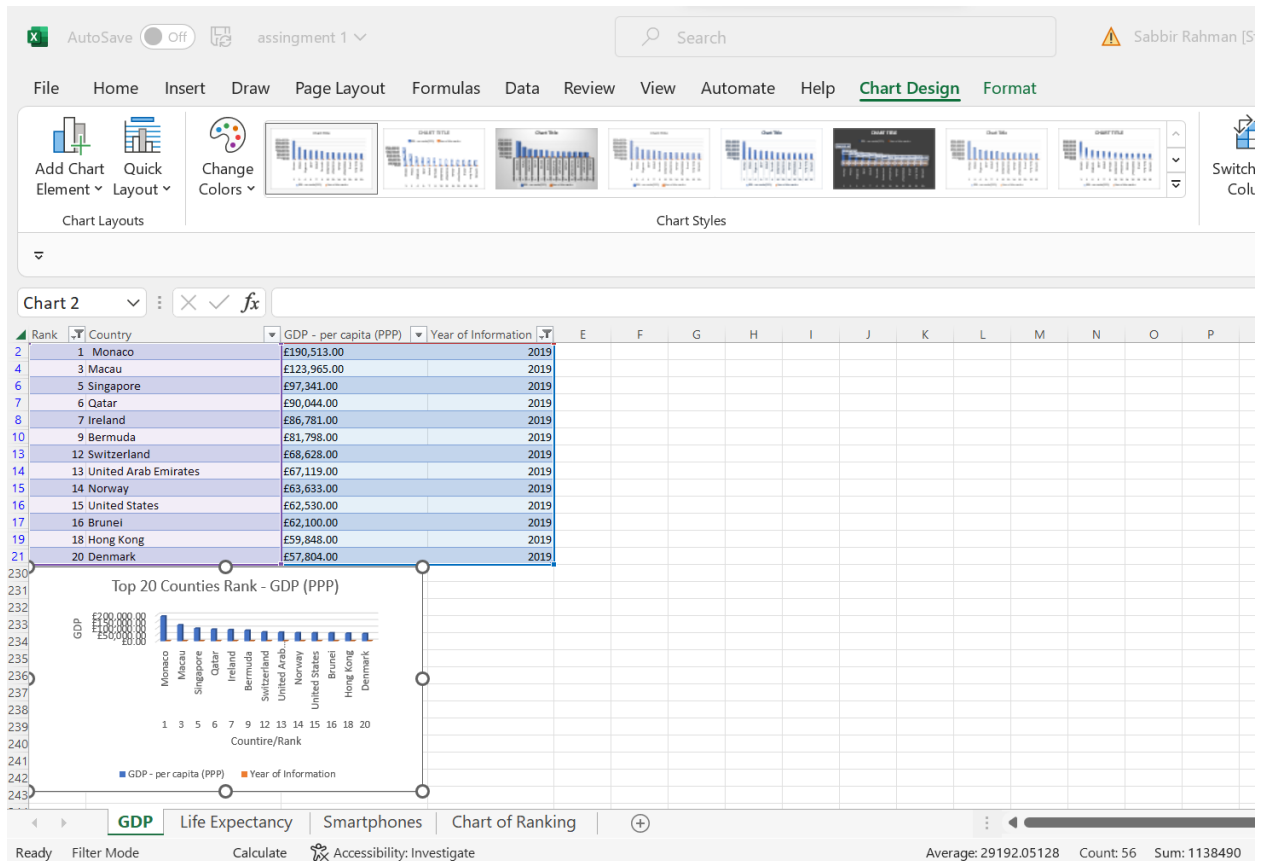
A2 1

Rank	Country	GDP - per capita (PPP)	Year of Information
1	Monaco	£190,513.00	2019
3	Macau	£123,965.00	2019
5	Singapore	£97,341.00	2019
6	Qatar	£90,044.00	2019
7	Ireland	£86,781.00	2019
9	Bermuda	£81,798.00	2019
12	Switzerland	£68,628.00	2019
13	United Arab Emirates	£67,119.00	2019
14	Norway	£63,633.00	2019
15	United States	£62,530.00	2019
16	Brunei	£62,100.00	2019
17	Hong Kong	£59,848.00	2019
20	Denmark	£57,804.00	2019

Ready 13 of 228 records found Accessibility: Investigate 100%

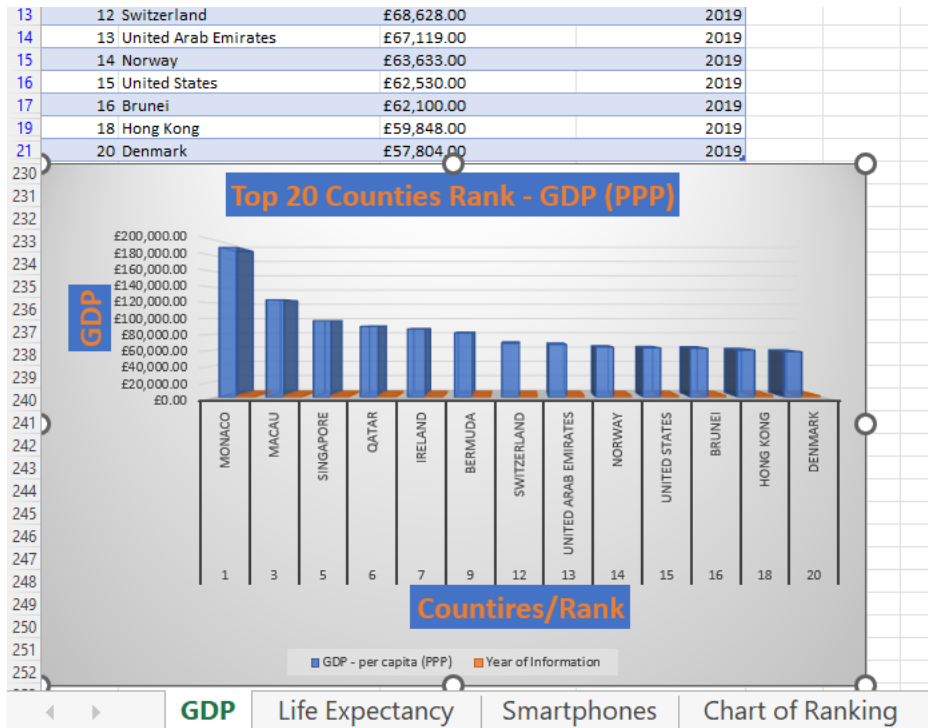
2.8 Create new chart for top 20

Next create a new Bar chart to display the 20 highest ranking countries from your sort and then move the chart to be underneath the table.



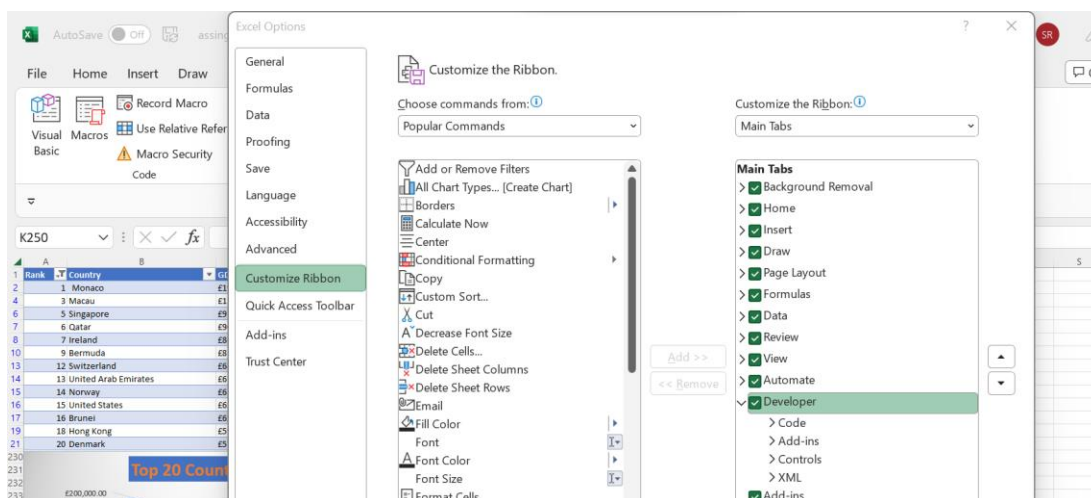
2.9 Personalize Chart (Top 20 Chart)

Colour the background by highlighting the area underneath the table as shown below. Find the add a fill colour icon and select a colour.

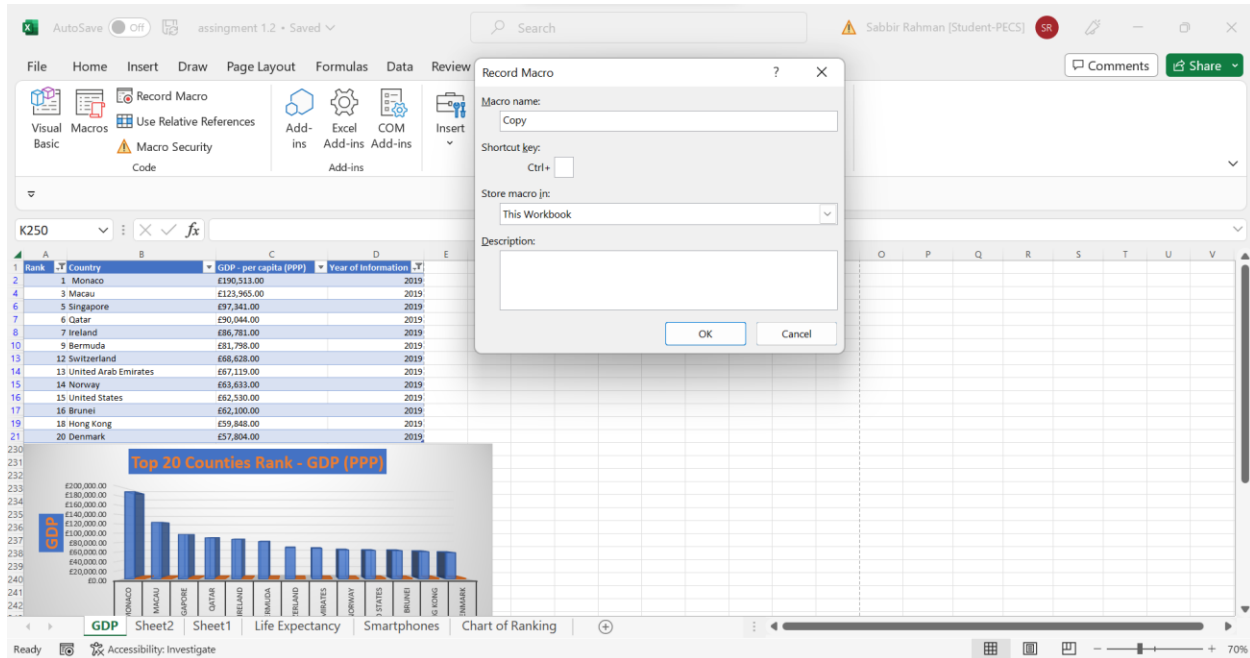


2.10 Create Macros

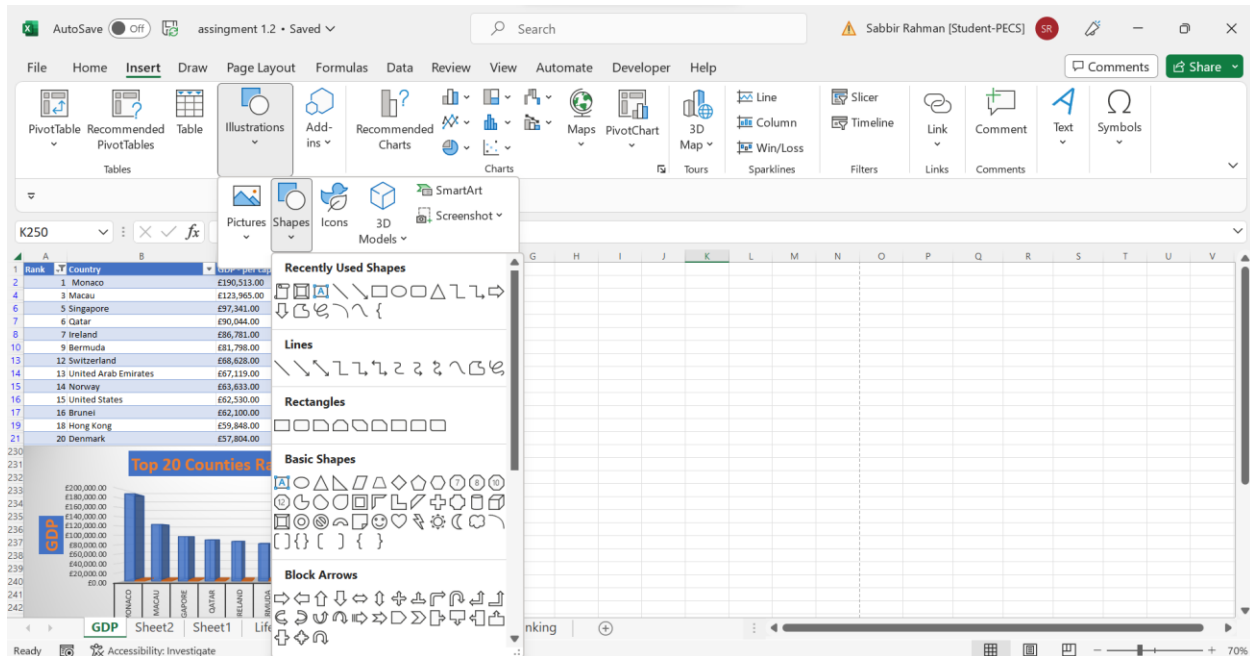
2.10.1 Activate Developer Ribbon form Options



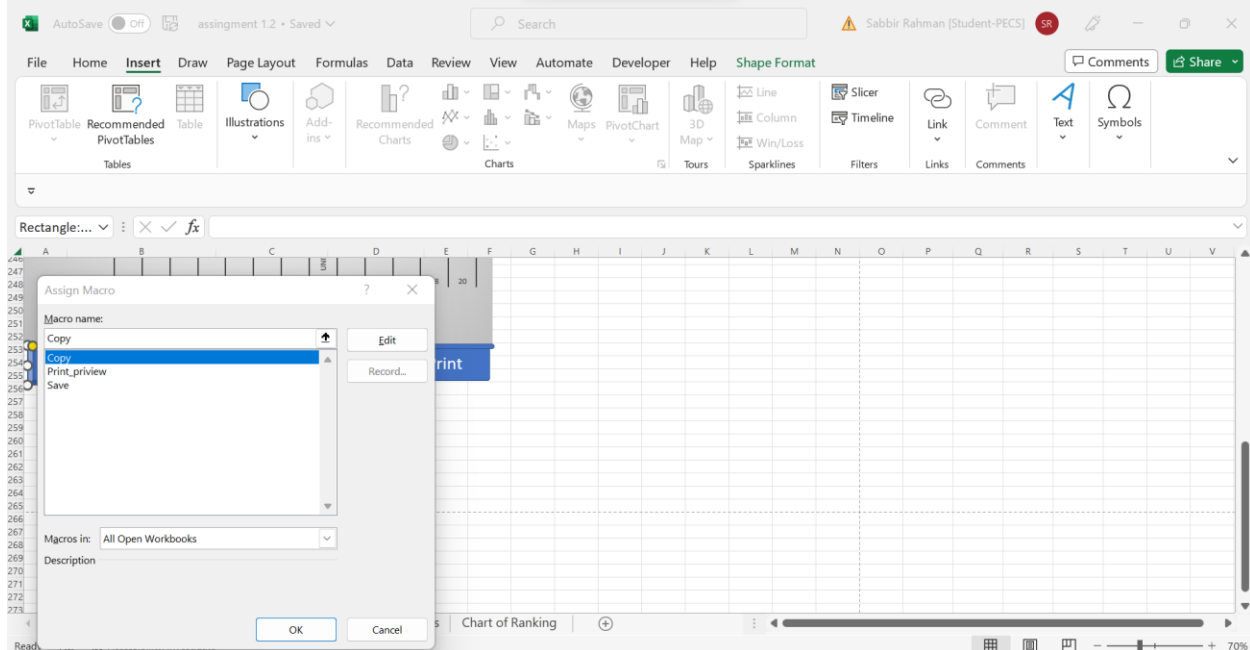
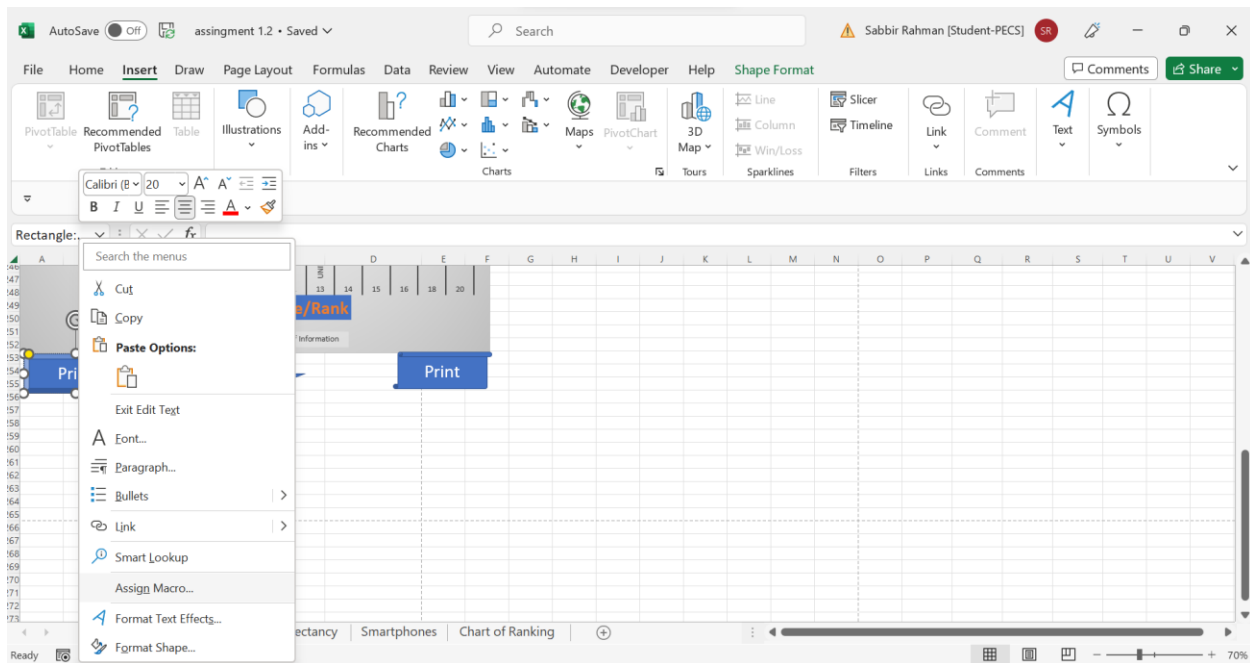
2.10.2 Record Macro



2.10.3 Create Button



2.10.4 Assign Macro to button



2.11 Usage of Macro

Using the copy macro, copy the sheet and then paste it into a new word document keeping the formatting. Give the page a title 'GDP (Gross domestic product)' .

Rank	Country	GDP - per capita (PPP)	Year of Information
1	Monaco	£190,513.00	2019
3	Macau	£123,965.00	2019
5	Singapore	£97,341.00	2019
6	Qatar	£90,044.00	2019
7	Ireland	£86,781.00	2019
9	Bermuda	£81,798.00	2019
12	Switzerland	£68,628.00	2019
13	United Arab Emirates	£67,119.00	2019
14	Norway	£63,633.00	2019
15	United States	£62,530.00	2019
16	Brunei	£62,100.00	2019
18	Hong Kong	£59,848.00	2019
20	Denmark	£57,804.00	2019

2.12 Save your document as 'Word Gross domestic product report 1'

The screenshot shows the Microsoft Word interface. The title bar indicates the document is 'Word Gross domestic product report 1'. The ribbon is set to 'Home', and the 'Font' group is active, showing 'Times New Roman' and size '10'. The 'Paragraph' group shows 'Normal' style. The document content area displays the title 'Word Gross domestic product report 1' followed by the table from the previous block. The status bar at the bottom shows 'Page 1 of 1', '72 words', and 'Accessibility: Investigate'.

Word Gross domestic product report 1

Rank	Country	GDP - per capita (PPP)	Year of Information
1	Monaco	£190,513.00	2019
3	Macau	£123,965.00	2019
5	Singapore	£97,341.00	2019
6	Qatar	£90,044.00	2019
7	Ireland	£86,781.00	2019
9	Bermuda	£81,798.00	2019
12	Switzerland	£68,628.00	2019
13	United Arab Emirates	£67,119.00	2019
14	Norway	£63,633.00	2019
15	United States	£62,530.00	2019
16	Brunei	£62,100.00	2019
18	Hong Kong	£59,848.00	2019
20	Denmark	£57,804.00	2019

2.13 Insert Header and Footer

2.13.1 In the header enter your name and GLA DATA 1 in the three boxes

The screenshot shows the Microsoft Excel interface with the 'View' tab selected. The ribbon includes options for 'Default', 'Sheet View', 'Workbook Views' (Normal, Page Break Preview, Custom Views), 'Show' (Ruler, Gridlines, Formula Bar, Headings), and 'Zoom' (Zoom, 100%, Zoom to Selection). The formula bar shows 'G32' and the function 'fx'. The worksheet grid shows columns A, B, C, and D. The data table is as follows:

Rank	Country	GDP - per capita (PPP)	Year of Information
1	Monaco	£190,513.00	2019
2	Liechtenstein	£180,367.00	2018
3	Macau	£123,965.00	2019
4	Luxembourg	£115,874.00	2020
5	Singapore	£97,341.00	2019
6	Qatar	£90,044.00	2019
7	Ireland	£86,781.00	2019
8	Isle of Man	£84,600.00	2014
9	Bermuda	£81,798.00	2019
10	Cayman Islands	£71,549.00	2018
11	Falkland Islands	£70,800.00	2015

2.13.2 In the footer add today's date then Assignment 1 and lastly Data Visualization.

The screenshot shows the Microsoft Excel interface. The ribbon is set to 'View'. The worksheet contains a table with the following data:

	A	B	C	D
140	140	Ecuador	£11,375.00	2019
141	141	Kosovo	£11,368.00	2019
142	142	American Samoa	£11,200.00	2016
143	143	Iraq	£10,881.00	2019
144	144	Tunisia	£10,756.00	2019
145	145	Jordan	£10,071.00	2019
146	146	Jamaica	£9,762.00	2019
147	147	Namibia	£9,637.00	2019
148	148	Philippines	£8,908.00	2019
149	149	El Salvador	£8,776.00	2019
150	150	Bolivia	£8,724.00	2019

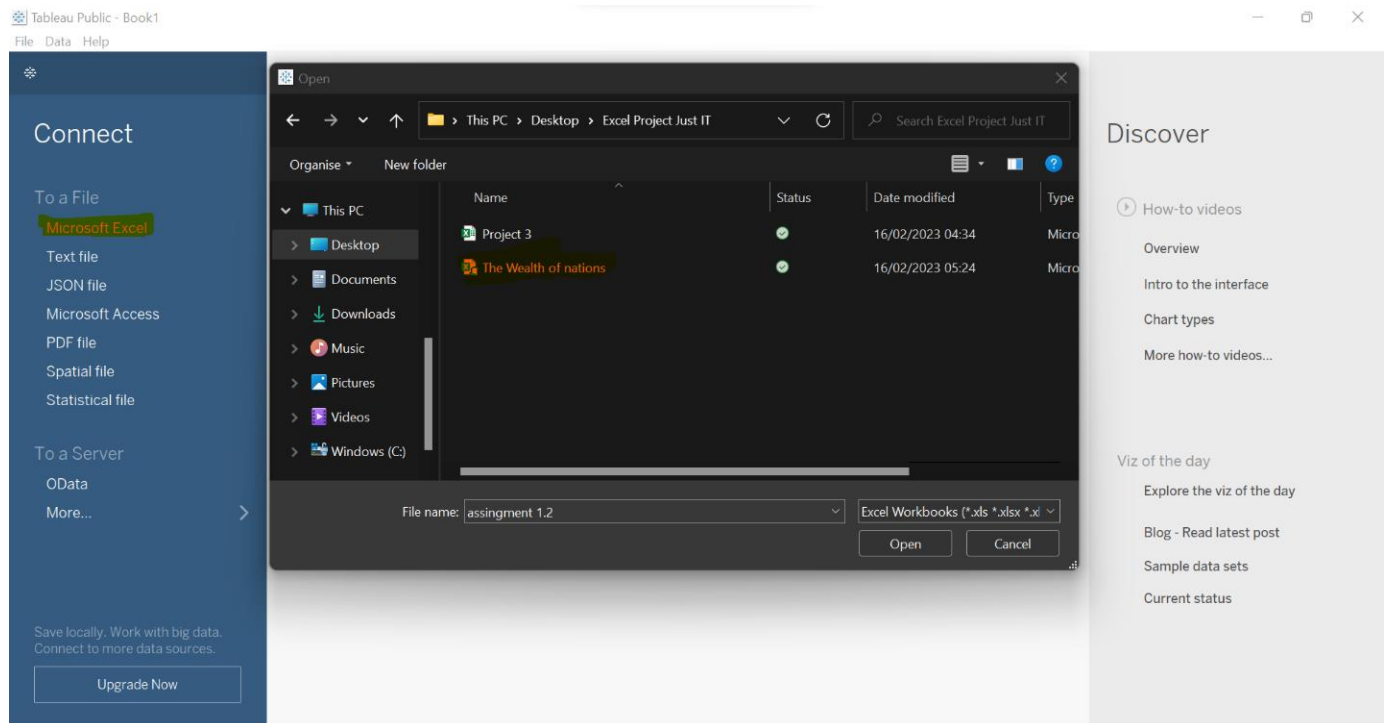
The footer contains the following text:

16/02/2023 Excel Tableau Project Data Visualisation

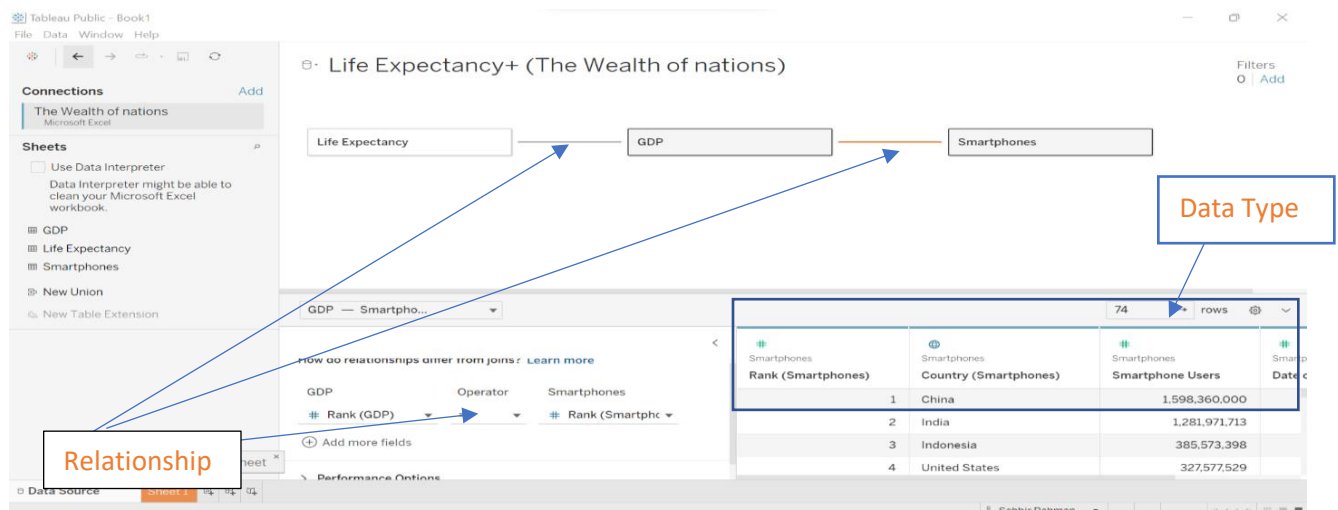
Task 3

Data Visualization with Tableau

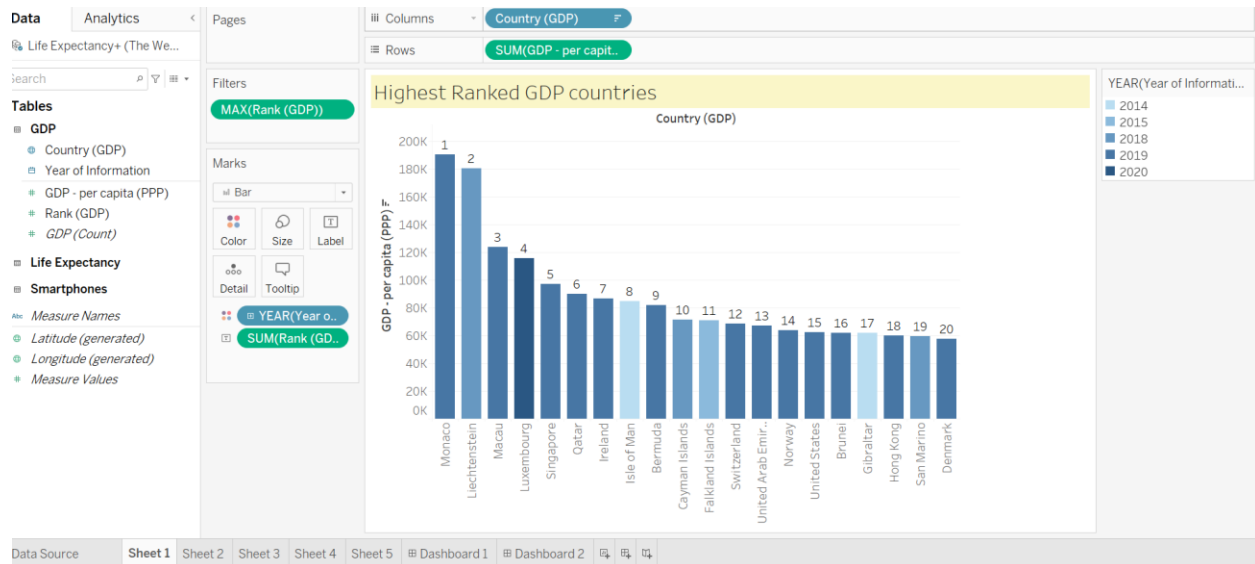
3.1 Import data



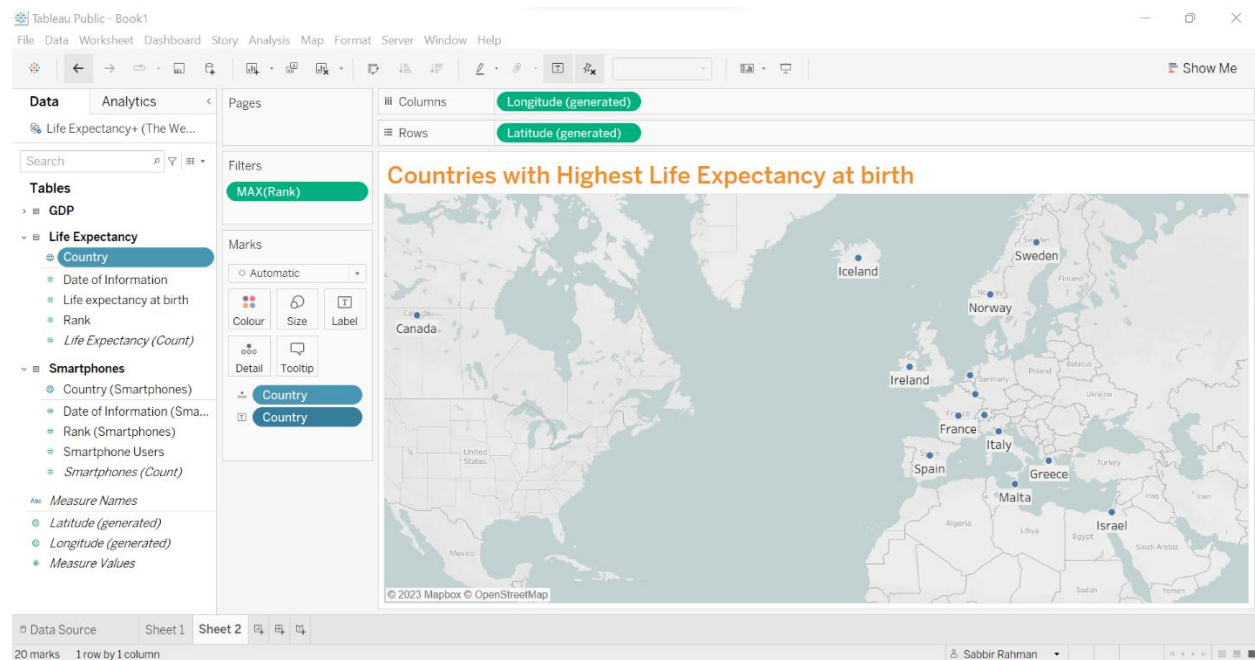
3.2 Set Relationship & Check Data Type



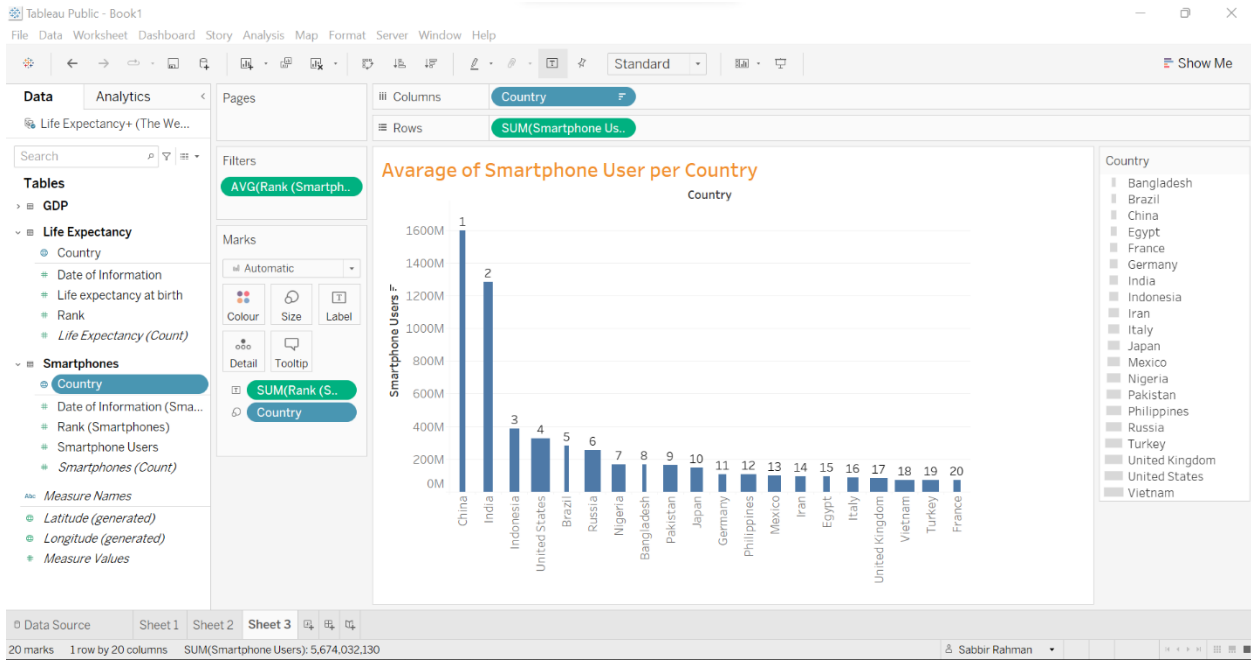
3.1 Chart 1 - Highest Rank in GDP Countries



3.2 Chart 2 - Countries with Highest Life Expectancy at birth



3.3 Chart 3 – Average of Smartphone user per country



3.4 Dashboard

