



# DATA VISUALIZATION

Assignment 1

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## TASK 1

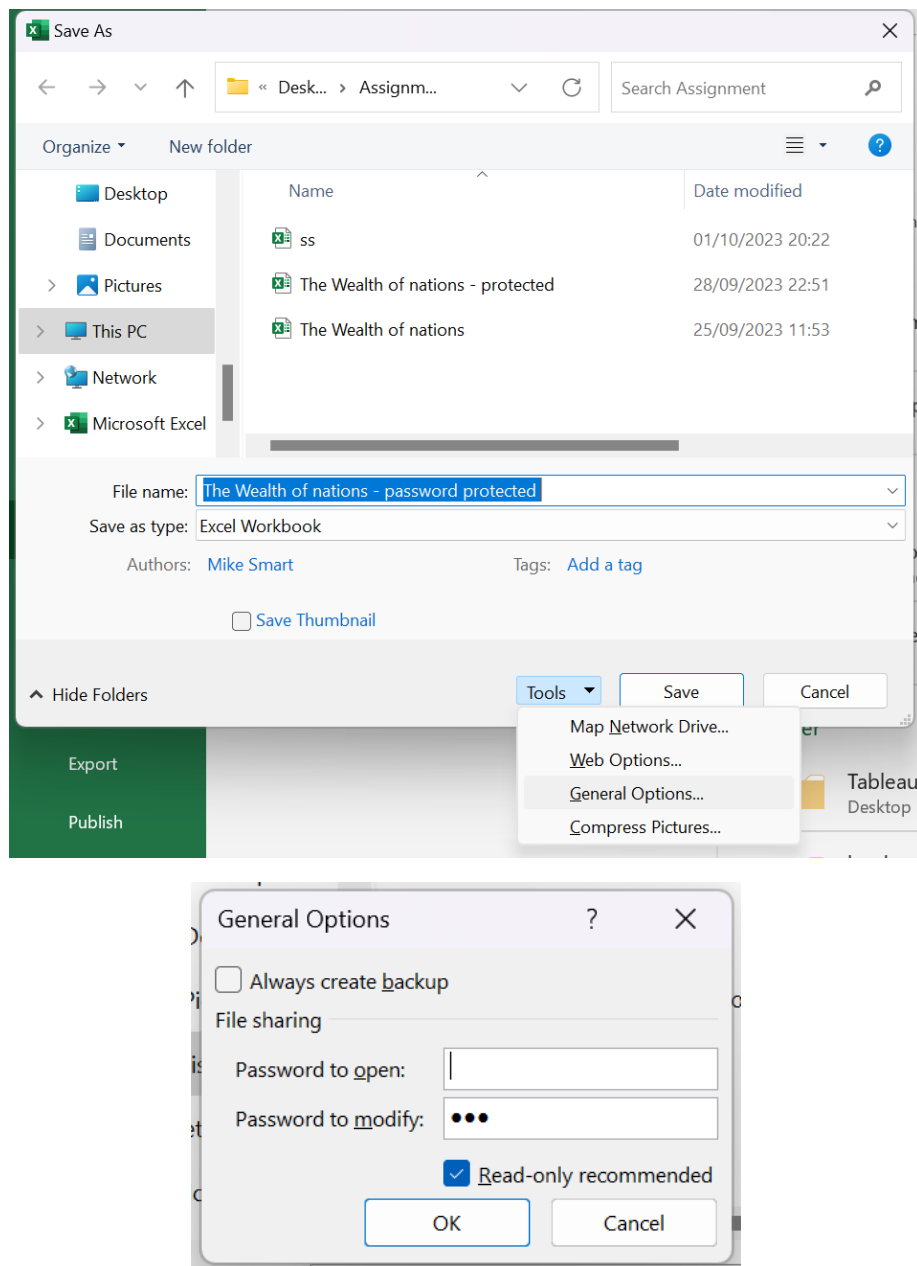
### Policies and Procedures

- Data Quality - Effective analysis is based on ensuring data quality. Maintaining data integrity and reducing errors that could result in incorrect conclusions are made easier by adhering to data collection and validation protocols.
- Data Security - Economic data can be sensitive and valuable. To guard against data breaches, unauthorised access, and cyber threats, data security policies must be followed. Such data handling errors can cost money and harm a company's reputation.
- Legal Compliance - Many countries have specific laws and regulations governing the collection and use of economic data. Adhering to these rules is not only important for compliance but also for avoiding legal liabilities.
- Accuracy and Credibility - It is crucial to maintain accuracy when analysing data. The data you are using is credible and reliable if you follow established policies. Any inaccuracies or mistakes in economic data may have far-reaching effects and may result in poor investment or policy recommendations.
- Ethical Considerations - Data analysts must adhere to ethical guidelines when working with sensitive economic data. Unauthorized access, data manipulation, or misuse of economic data can result in legal and ethical repercussions. Respecting privacy and confidentiality is vital, especially when dealing with individual or company financial information.

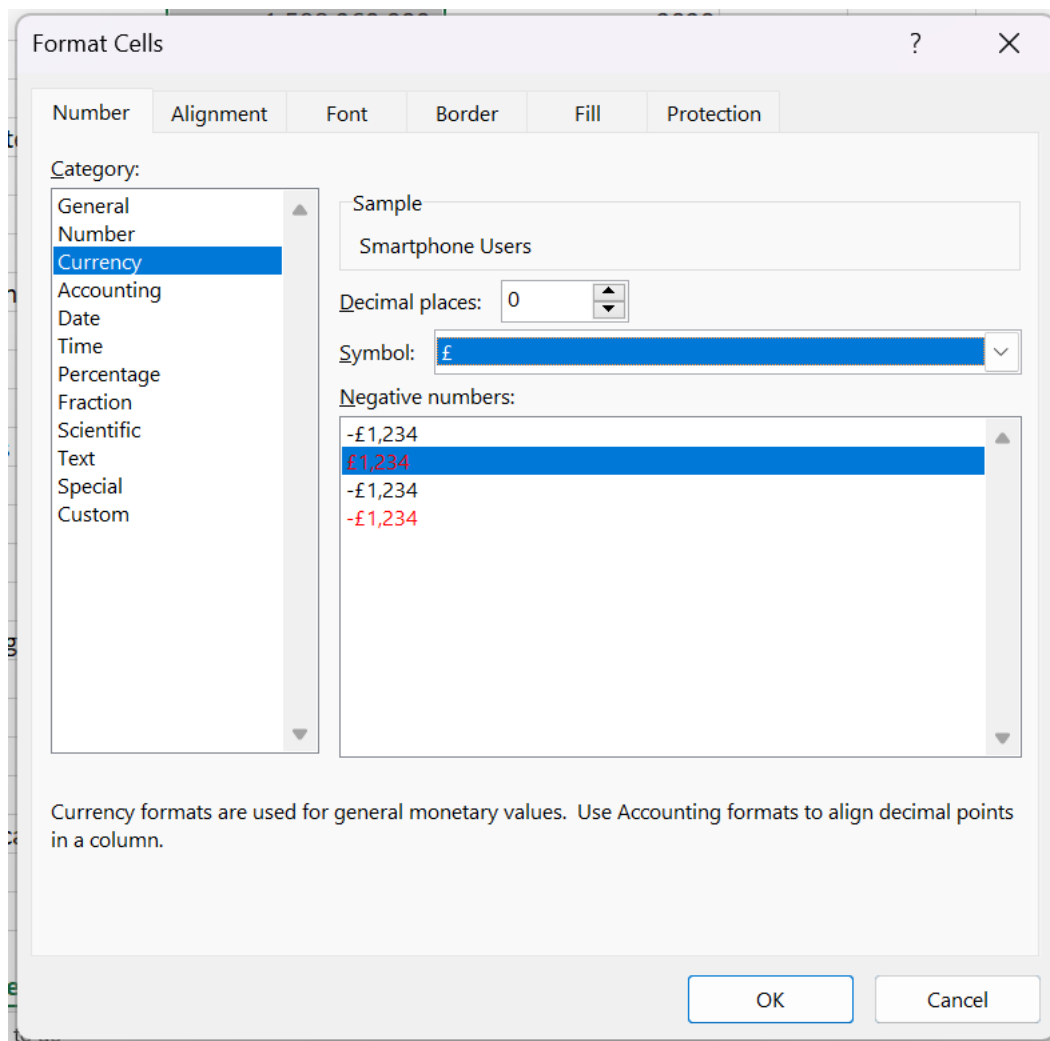
In conclusion, for accuracy, reliability, ethics, and transparency in data analysis, adherence to norms and rules is crucial when working with economic data. Whether they are made in the public or private sector, economic decisions can have a big impact on society and the economy. These guidelines should be understood and adhered to in order to guarantee that data analysts deliver worthwhile, reliable insights that support well-informed decision-making and the general prosperity of economies and societies.

## TASK 2

### Excel



1. To password protect the file, go to the file option > save as > and choose location > go to tools option > general options > and set password to modify.

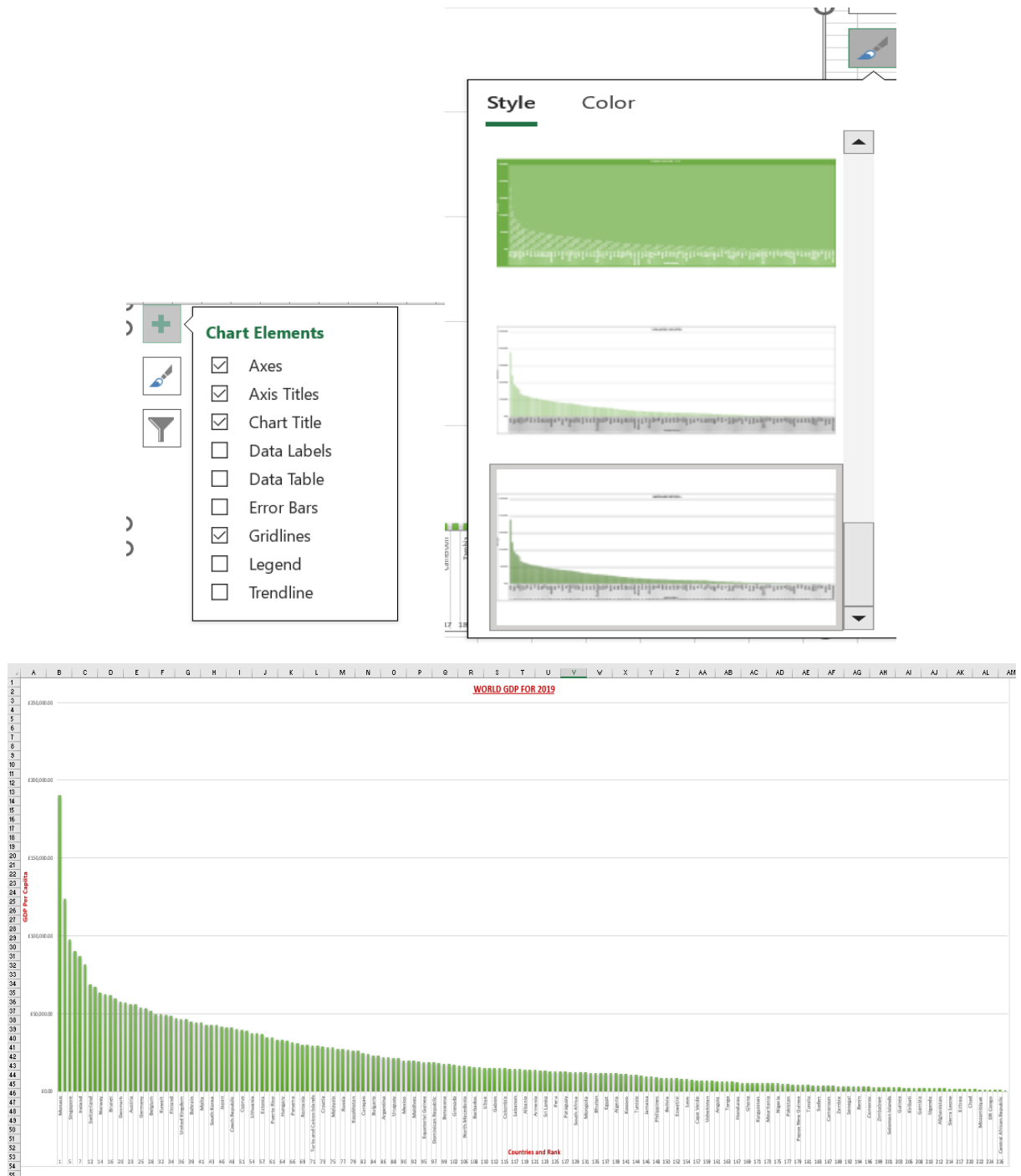


2. After highlighting column C, right click > select format cells > currency > choose £ symbol > press ok. The column c is now showing in pounds.

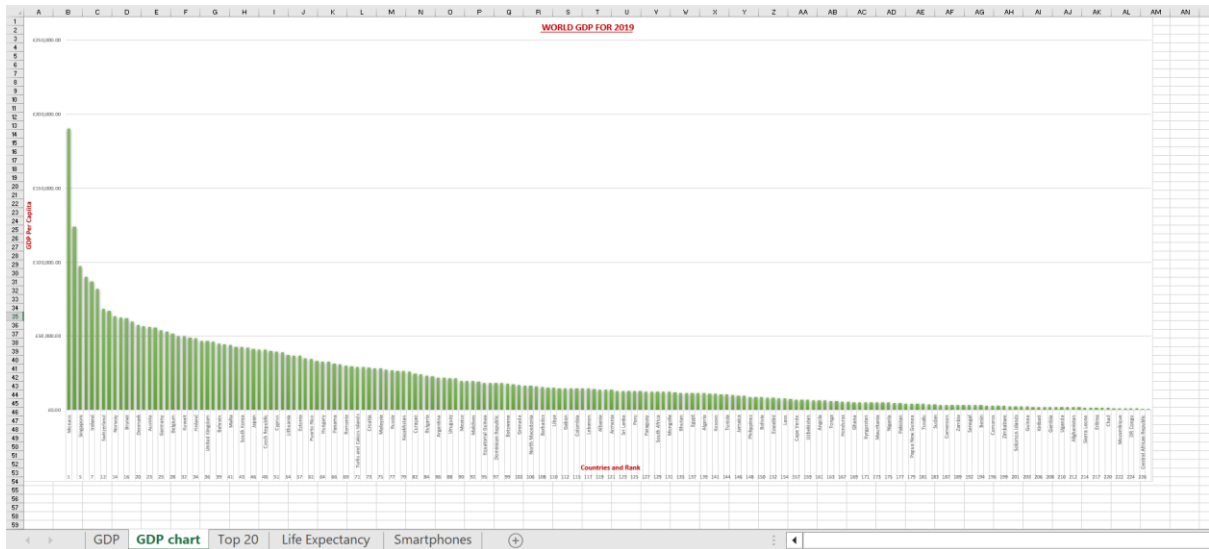
	A	B	C	D
1	Rank	Country	GDP - per capita (PPP)	Year of Information
2	1	Monaco	£190,513.00	2019
3	2	Liechtenstein	£180,367.00	2018
4	3	Macau	£123,965.00	2019
5	4	Luxembourg	£115,874.00	2020
6	5	Singapore	£97,341.00	2019
7	6	Qatar	£90,044.00	2019
8	7	Ireland	£86,781.00	2019
9	8	Isle of Man	£84,600.00	2014
10	9	Bermuda	£81,798.00	2019
11	10	Cayman Islands	£71,549.00	2018
12	11	Falkland Islands	£70,800.00	2015
13	12	Switzerland	£68,628.00	2019
14	13	United Arab Emirates	£67,119.00	2019
15	14	Norway	£63,633.00	2019
16	15	United States	£62,530.00	2019
17	16	Brunei	£62,100.00	2019
18	17	Gibraltar	£61,700.00	2014
19	18	Hong Kong	£59,848.00	2019
20	19	San Marino	£59,439.00	2018
21	20	Denmark	£57,804.00	2019
22	21	Netherlands	£56,935.00	2019
23	22	Jersey	£56,600.00	2016
24	23	Austria	£56,188.00	2019
25	24	Iceland	£55,874.00	2019
26	25	Germany	£53,919.00	2019

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1	Rank	Country	GDP - per capita (PPP)	Year of Information
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19	18	Hong Kong	£59,848.00	2019
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22	21	Netherlands	£56,935.00	2019
24	23	Austria	£56,188.00	2019
25	24	Iceland	£55,874.00	2019
26	25	Germany	£53,919.00	2019
27	26	Sweden	£53,240.00	2019
29	28	Belgium	£51,934.00	2019
32	31	Australia	£49,854.00	2019
33	32	Kuwait	£49,854.00	2019
34	33	Canada	£49,031.00	2019
35	34	Finland	£48,668.00	2019
36	35	Saudi Arabia	£46,962.00	2019
37	36	United Kingdom	£46,659.00	2019

3. Select the data, press ctrl T to create a table.
4. Select the filter on column D, and select the year 2019 only.
5. Highlight rank, country and GDP columns, go to insert > select bar chart.
6. Click the chart, select chart elements, and tick chart titles and axes titles and add in the information. Select chart styles, choose style of chart and colour.



7. Add a new sheet, and move the chart, and save as GDP chart as shown below.

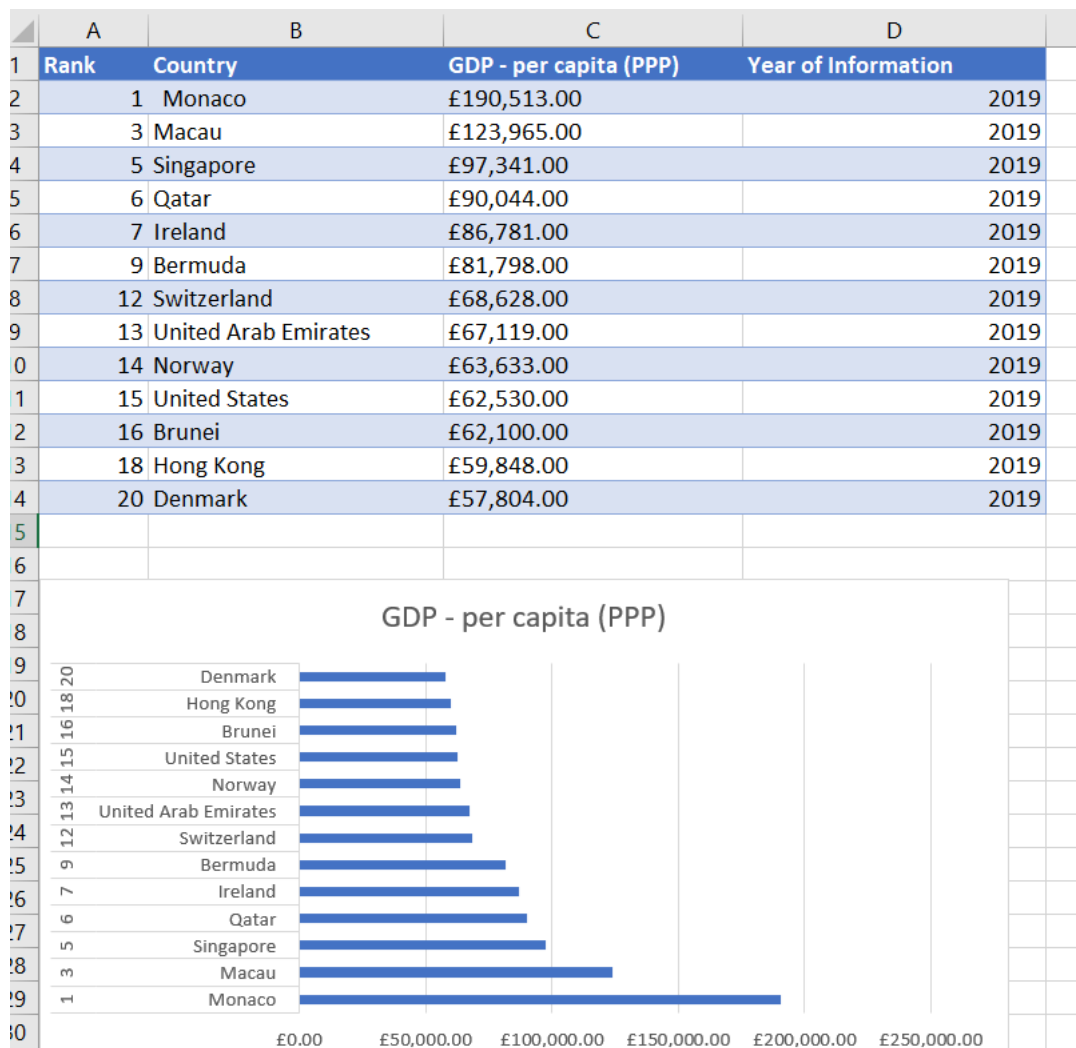


8. Create a new table with top 20 countries.

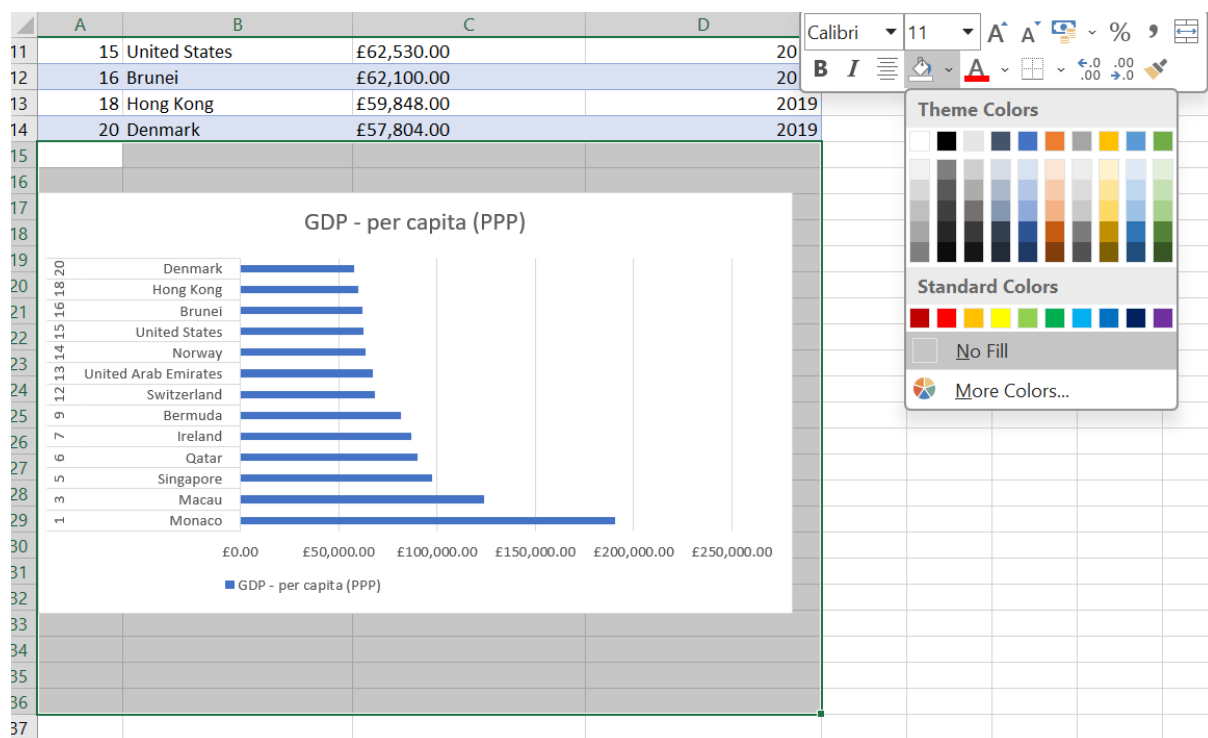
	A	B	C	D
1	Rank	Country	GDP - per capita (PPP)	Year of Information
2	1	Monaco	£190,513.00	2019
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9	13	United Arab Emirates	£67,119.00	2019
10	14	Norway	£63,633.00	2019
11	15	United States	£62,530.00	2019
12	16	Brunei	£62,100.00	2019
13	18	Hong Kong	£59,848.00	2019
14	20	Denmark	£57,804.00	2019

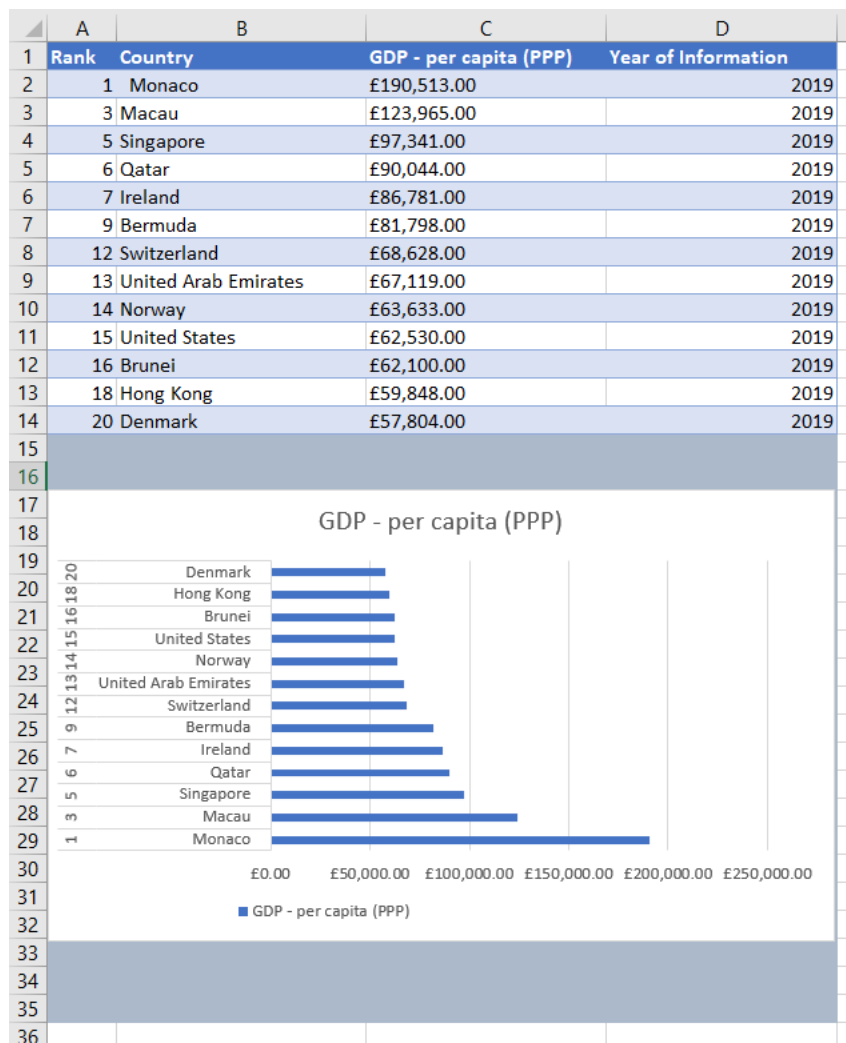
9. Select all data and create bar chart from insert menu and then place it below the table.





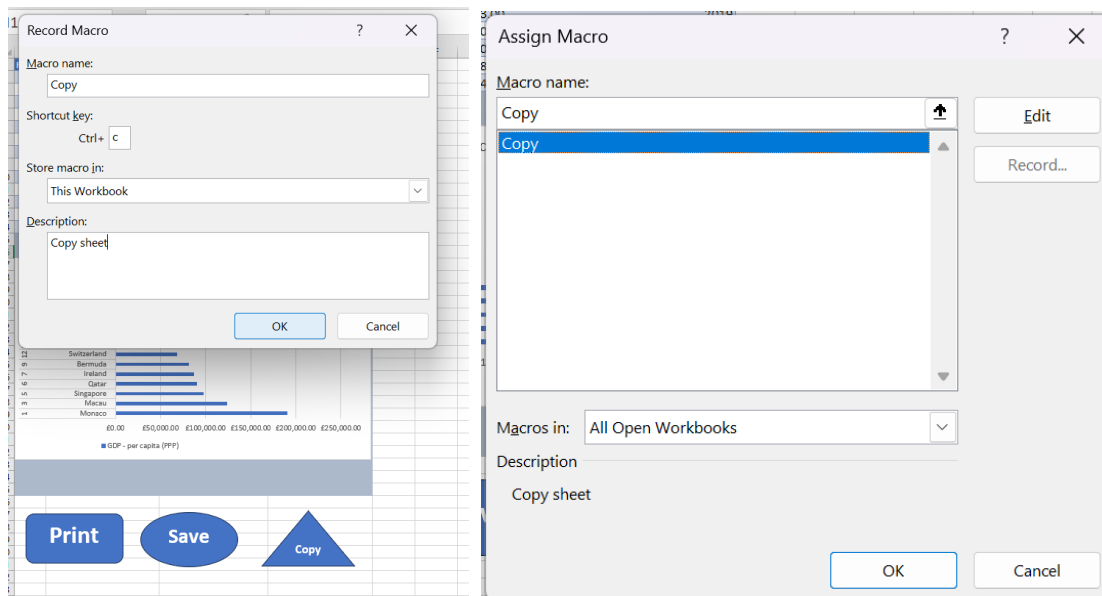
10. Select the required area, then right click, and select the fill colour option to colour the background.



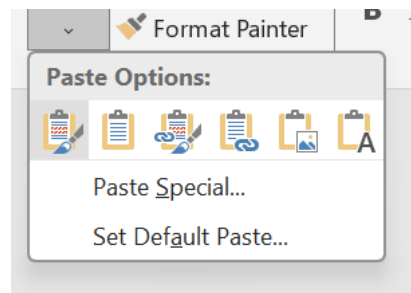


## The Data

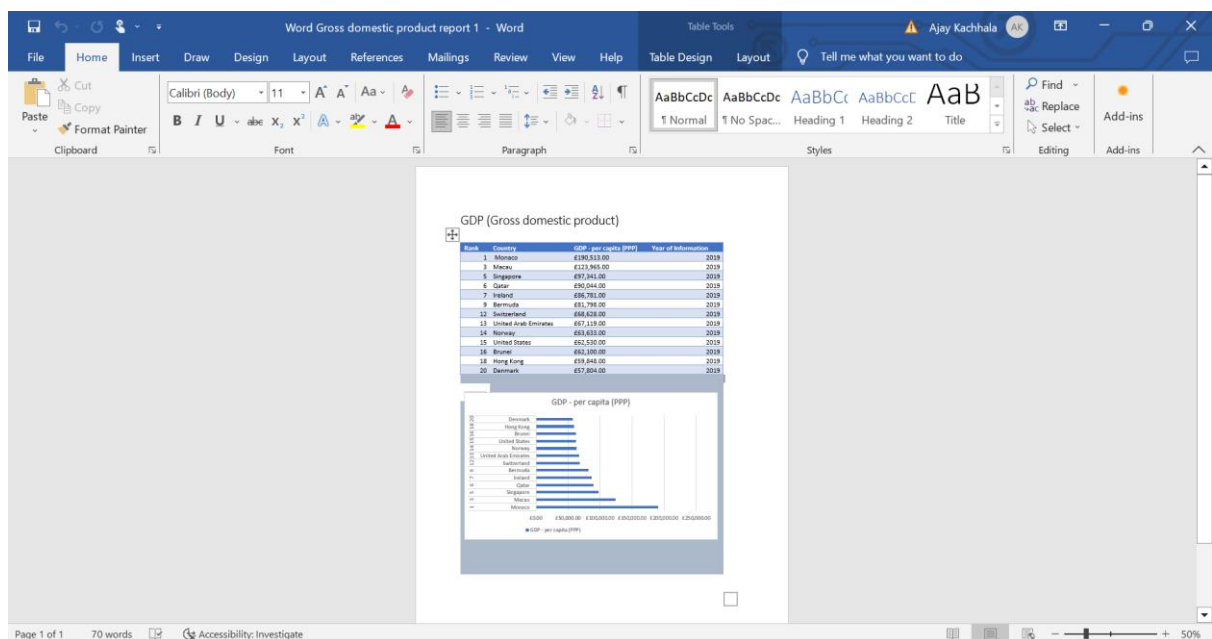
1. Create 3 buttons using the shape option from insert menu. Then, go to view > select macros > record macros and insert the information as shown below and press ok. Highlight the area to be copied, right click, click copy and then stop the recording. Click on the copy button > right click > assign macro.



- Using the copy macro, paste it into a new word document using the keeping the source formatting paste option.



- Then, save it.



- Go back to the excel file, select the view menu > page layout > and insert in the header and footer information as shown below and save the table.

Header			
Ajay		Kachhala	GLA DATA 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

61	Puerto Rico	£34,518.00	2019
63	Poland	£33,221.00	2019
64	Hungary	£32,945.00	2019
65	Slovakia	£32,730.00	2019
66	Panama	£31,459.00	2019
68	Latvia	£30,898.00	2019
69	Romania	£29,941.00	2019

29/09/2023

Assignment 1

Data visualization

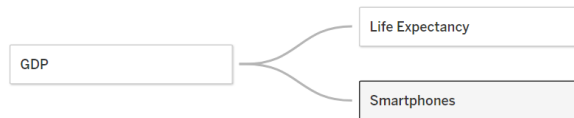
## TASK 3

### Tableau

1. Import data from excel and set the relationships.

• GDP+ (The Wealth of nations)

Filters  
0 | Add



Smartphones			
4 fields 74 rows			
74 rows			
Name	Smartphones	Smartphones	Smartphones
Rank (Smartphones)	Country (Smartphones)	Smartphone Users	Date c
1	China	1,598,360,000	
2	India	1,281,971,713	
3	Indonesia	385,573,398	
4	United States	327,577,529	

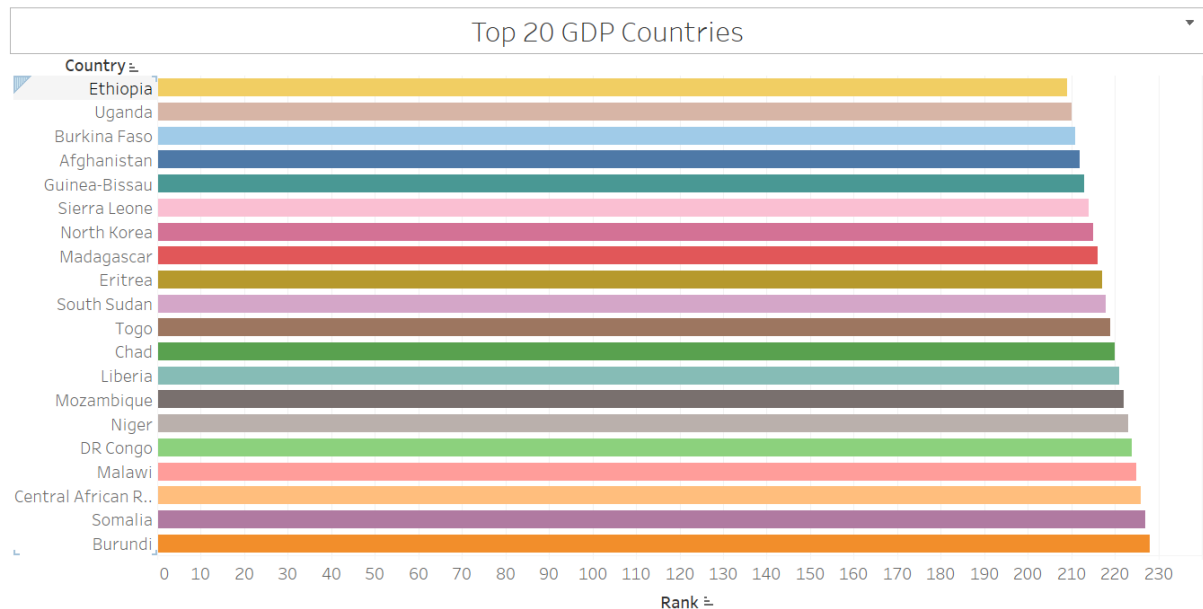
2. Top 20 GDP countries.

Select the country and sum(rank), place them in row and column and select the bar chart.

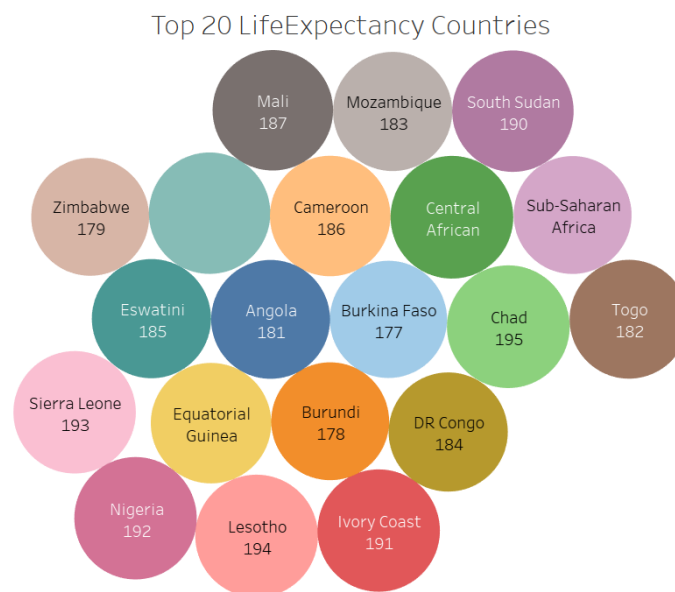
Select the top 20 country from the filter option.

Put the country under colour option and sum(rank) under detail option.

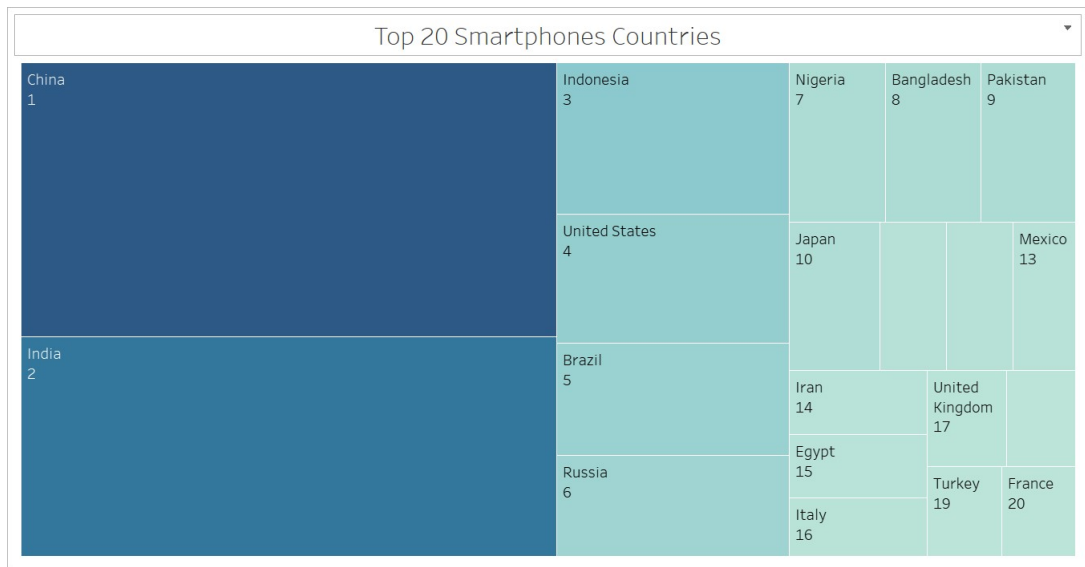
From the worksheet menu select the title option and create the title.



- Top 20 life expectancy countries.  
 Select top 20 country from the filter option and select the bubble chart.  
 Give label to country and sum(rank).  
 Colour the country and size the sum(rank).  
 From the worksheet menu select the title option and create the title.



- Top 20 smartphone user countries.  
 Select top 20 country from the filter option and select tree map.  
 Give colour, size and label to the sum(rank) and give label to country.  
 From the worksheet menu select the title option and create the title.

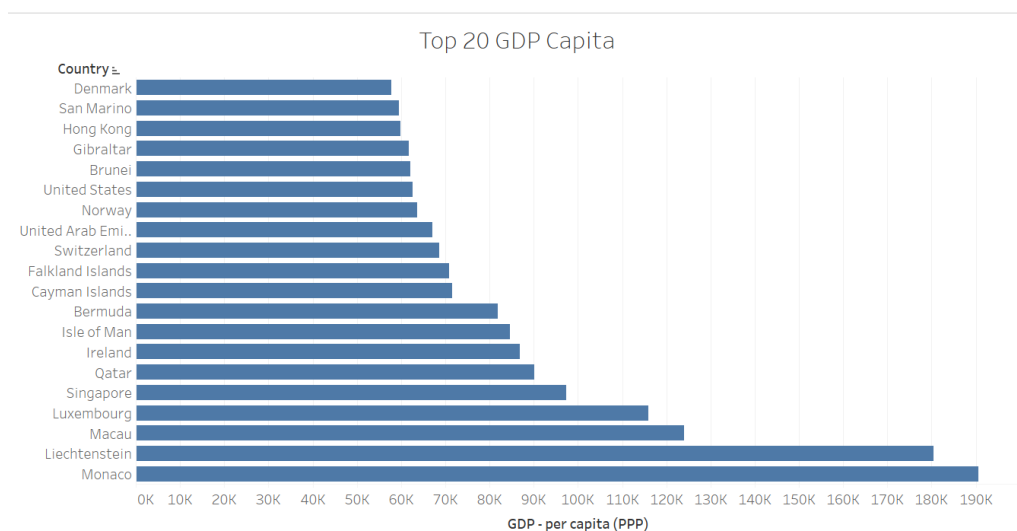


##### 5. Top 20 GDP per capita.

Select the country and sum(GDP per capita), place them in row and column and select the bar chart.

Select top 20 country from the filter option.

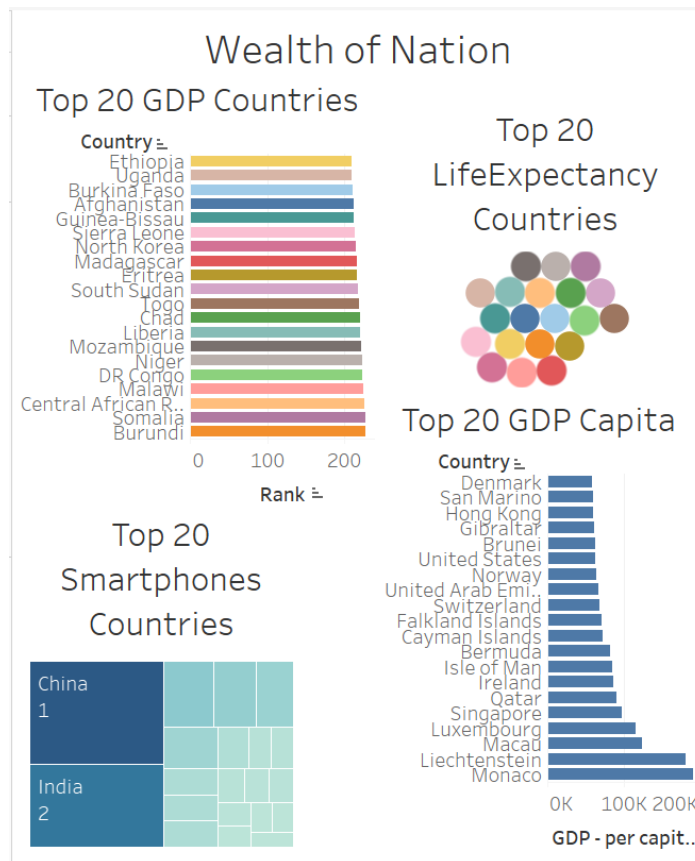
From the worksheet menu select the title option and create the title.



##### 6. Dashboard

Create a dashboard by giving the title as Wealth of Nations.

Take all the charts one by one from the chart list and place them on the dashboard.



## Reflective

I was very well aware of the policies and procedures of working with data so it was easy for me to find the information needed. In excel, I was confident in all the table and chart tasks but need more practice and development with the macros. Also, a good lesson learnt in password protecting the workbook as this was something new for me. In Tableau, creating relationships among the tables and making the charts I was familiar with so the task went well. However, the outcome in tree map and bubble chart were not as expected because some information was missing in few parts. I tried to rectify these a few times but could not make it work. I faced the same problem within the charts on the dashboard. Tableau is something new for me so by working on this assignment, it has helped me get more familiarised with all the functions.