Data Science Task 16 - Data Visualisation

1. Gender wage gap in 2015 bar graph

Which three countries have the lowest gender wage gap?
    Costa Rica
    Belgium
    Denmark

Which three countries have the highest gender wage gap?
    Korea
    Japan
    Chile

Do some research on the country with the lowest gender wage gap and comment on why you think it succeeded in achieving a low gender wage gap in 2015.

Likely reasons why Costa Rica has achieved the lowest gender wage gap is because of a concerted effort to prioritise gender equality as an investment tool and as a means of reaching sustainable development goals.

According to Paola Bulgarelli of Costa Rica's Investment Promotion Agency, they have implemented a directed strategy to address gender inequality focused on 3 key areas:
facilitating inclusive hiring practices (i.e)
developing recruitment processes
encouraging female participation with training opportunities.

In addition to these key areas they are also working toward addressing issues such as rural unemployment, lack of technical skills and
pregnancy/maternity leave which predominantly affect the wages of women in Costa Rican society. Resolving these issues will help to bring gender wage parity to Costa Rica.

2. Isopropanol sales in USA May 2019 to March 2020

Explain what is happening in the graph during March 2020 with regards to isopropanol sales.

The general trend in this graph shows that during March of 2020 the price of Isopropanol in the USA increased drastically, roughly doubling from pre-March measurements
and reaching year-high prices.

<u>Describe a possible reason for the observation you made about isopropanol sales in March 2020.</u>

A likely reason for the rising price of isopropanol is a massively growing demand. March 2020 represents the month when the World Health Organisation declares COVID-19 a pandemic and as such Isopropanol, a key ingredient in medical disinfectants and hand sanitizer, is likely to be desired by hospitals, businesses and the general public alike as they seek to protect themselves and others from the virus.

3. CO_2 emissions per person vs GDP per capita

<u>Discuss the relationship between CO_2 emissions per person and GDP per capita for each continent listed in the figure legend.</u>

Africa
African countries are predominantly on the lower end of both GDP per capita and CO_2 emissions. Note that the axes both include a logarithmic scale, so a higher positioning represents significantly more CO_2 emissions and GDP. The general trend is likely that as countries begin to industrialise both their GDP and CO_2 emissions grow accordingly, with a handful of African countries on par with European countries in this chart.

Americas
The Americas has a handful of medium population, high GDP, high CO_2 countries alongside a plethora of smaller countries with low-medium GDP and CO_2 following the general trend of increased development = increased pollution. They have very little representation in the low end of the GDP scale.

Asia
Asia occupies many extremes of this bubble plot. It contains countries with very small populations but with both relatively low and high GDP per capita. Some of the high GDP small population Asian countries represent the biggest CO_2 emitters, while the low GDP small population countries occupy the opposite end of the spectrum producing the lowest recorded CO_2 emissions. Asia also contains the countries with the largest population sizes, with the large countries tending to occupy a low-medium position in both GDP per capita and CO_2 emissions.

Europe
Most European countries are relatively low in population and on the higher end of the GDP per capita scale and consequently are higher in CO_2 emissions also. Poorer European countries likely represent higher emissions than their GDP would suggest due to their close proximity, and likelihood of trade relationships, with the richer European countries (i.e. EU member states). Europe has the lowest variability of any continent, with most countries quite close to each other.

Oceania
Occupies a similar position to Europe, with most countries being high in GDP and CO2. In contrast, there are very few countries in Oceania and their populations are small so as a whole the region likely represents only a small fraction of both world GDP and CO2 emissions.