Task 1:

1-
1i. Costa Rica, Belgium and Denmark had the lowest gender wage gap.
1ii. Chile, Japan and Korea had the highest gender wage gap
1iii. Costa Rica succeeded in achieving a low gender wage gap in 2015 by implementing a few strategies and policies. This includes legalising minimum living wage, Legislative Decree No. 9677 Law No. 7142, which guarantees the right of women to equal pay, both in private and public sectors. Moreover, labour market regulations, parental leave policies and educational training programs all of which target to close gender inequality. There is also a National Women's Institute of Costa Rica, which played a significant role in advancing women's rights and gender equality in Costa Rica through various programs and policies.

2-
2i From May 2019, the sales of isopropanol remained constant until March 2020, whereby isopropanol sales in the USA increased rapidly by an estimate of 2 old-folds compared to May 2019 sales. All types of isopropanol display this trend.

2ii The trend of isopropanol sales increase in March 2020, coincides with the trend of COVID-19 cases increase. Isopropanol is the major component of disinfectants and hand sanitisers which would have been used more frequently, and therefore in demand, during the COVID-19 outbreak. Hence, the increase in isopropanol sales would be due to the high demand for cleaning detergents and hand sanitisers used commercially and in hospitals.

3-
3i.
The bubble plot shows a general positive linear correlation between GDP per capita and CO_2 emission per person as a general trend.

African countries dominate the lower range of the general trend, with a strong positive correlation, as the higher the GDP Per capita the higher the CO_2 emission.

Americas had a strong positive linear correlation between GDP per capita and CO_2 emission per person. Smaller population countries in Americas fall around the average of the general trend. In contrast, the larger population of Americas countries fall in the upper range of the general trend, demonstrating that, within Americas, the larger population have a higher GDP per capita and therefore higher CO_2 emission per person.

Asia follows a positive linear correlation trend and is the only continent with countries spread across the highest and lowest range of the general trend. Unlike America, Asia's larger population sits in the middle between other Asian smaller populated countries rather than the upper range.

Europe dominates the upper range of the general trend. It displays a little correlation as the plots form more of a steady, flatter trend which suggests that there is little correlation between GDP per capita and CO_2 emission per person.

Although a smaller data set, Oceania also shares the same positive correlation between GDP per capita and CO2 emission per person.

Task 2:
i. The crime rate vs rooms per dwelling represents the population of Boston as a whole. This is because the rooms per dwelling can give an insight into the number of people, and therefore the population. I.e 1 room in a dwelling fits approximately 2 people. The crime rate is the ratio of crimes in an area to the population of that area, hence, the crime rate is a good indication of the population.

Based on this graph, Boston has a low crime rate. This is because as the number of rooms per dwelling increases the crime rate does not increase which goes against the expectation of crime rate and population growth.

ii. Based on the graph of rooms per dwelling vs the percentage of units before 1940, the average number of rooms per dwelling in Boston is 6.

iii. There is a strong positive linear correlation between Rooms per dwelling and median house value. This may be because as the median house value increases more of the houses have an established living accommodation becomes available for rent.

iv. The percentage of units built before 1940 is 90% and therefore the majority of the houses are relatively old.

v. There is no linear correlation between the percentage of units built before 1940 and the median house value and the variables are independent of each other.