Research Task: To estimate a model of greenhouse gases and average global temperature and test if there is a statistically significant effect.

Data Features:

Response variable: Average global temperature

Explanatory variables: concentration of co2, ch4, n2o, hcfc, and sf6

There are one response variable and five explanatory variables. Response variables is quantitative. All explanatory variables are quantitative.

Analysis Strengths: There is an obvious linear trend. It is straightforward to show the correlation. It also has large sample.

Analysis Weaknesses: The model dose not explain causation. Measuring of global temperature is hard to achieve. Explanatory variables are correlated.

Alternative Example:

Response Variable: Life Expectancy in age (Quantitative)

Explanatory Variable: Adult Mortality Rates (Quantitative), Number of Infant Deaths (Quantitative), Alcohol consumption(Quantitative), Hepatitis B (HepB) immunization coverage(Quantitative), Average Body Mass Index(Quantitative)

<https://www.kaggle.com/kumarajarshi/life-expectancy-who/data>

Life expectancy is correlated with many factors. Population with better social environment and higher economy benefits tend to have longer life expectancy. The correlations seem to be statistically significantly.