**Introduction:**

Climate change is a global phenomenon that has the potential to significantly impact our planet's ecosystems and the well-being of human societies. Most significant cause of the climate change is the rise in the global temperature. In this project I have used various tools and models to predict the rise in temperature caused by climate change until 2100 based on the few parameters which I have selected. Analyzed historical data and forecasted the green house gas emission and population until 2100 using the forecasting Arima model. Based on the forecasted values, the rise in temperature is predicted with the help of Linear Regression model.

**Issues found in the dataset:**

1. **Dataset:**

The dataset for the greenhouse gas emission, GDP, growth, and the annual surface temperature of earth has been retrieved by various sources, so the data were separated. Collated all the datasets into single dataset, so that it can used for further analysis.

1. **Long Columns Names:**

The columns names were too long, and it contains space as well, so it was difficult to use those columns in the script. So, created a character vector with the column names and replaced the long columns names into the ones which was created.

1. **NA Values:**

The data contains NA values, which can be replaced with the mean of the cl and also it can be omitted

1. **Conversion of Wide to Long Data:**