Methodology

Linear Regression Models used in Prediction Model

The Prediction Model uses following Two Datasets

M1 GreenHouse Gas Emission Emission DataSet [1751-2017]
It contains the Annual Emission Data of CO_2 between the time period 1751-2017 for 231 Regions.
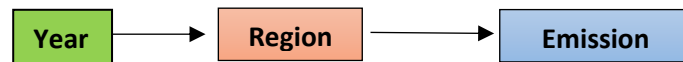
```
Year ──▶ Region ──▶ Emission
```

Fig 0.1. M1 Linear Regression Model

M2 Annual Temperature DataSet [1744-2013]

It contains the Monthly Temperature between the time period 1744-2013 for 218 Regions .

```
Year ──▶ Region ──▶ Temperature
```
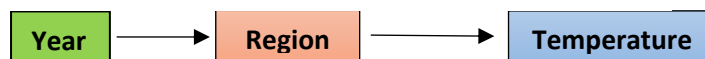
Fig 0.2.   M2 Linear Regression Model

The Model selects the Country and year values which are available in both datasets And it uses Model M1 to predict emission based on target year

And uses the obtained Emission prediction as input for M2 to predict temperature .

Test Set (year)   **Training Set (year,emission)**

M1

Output Set of M1 and Input set of M2 : (emission)
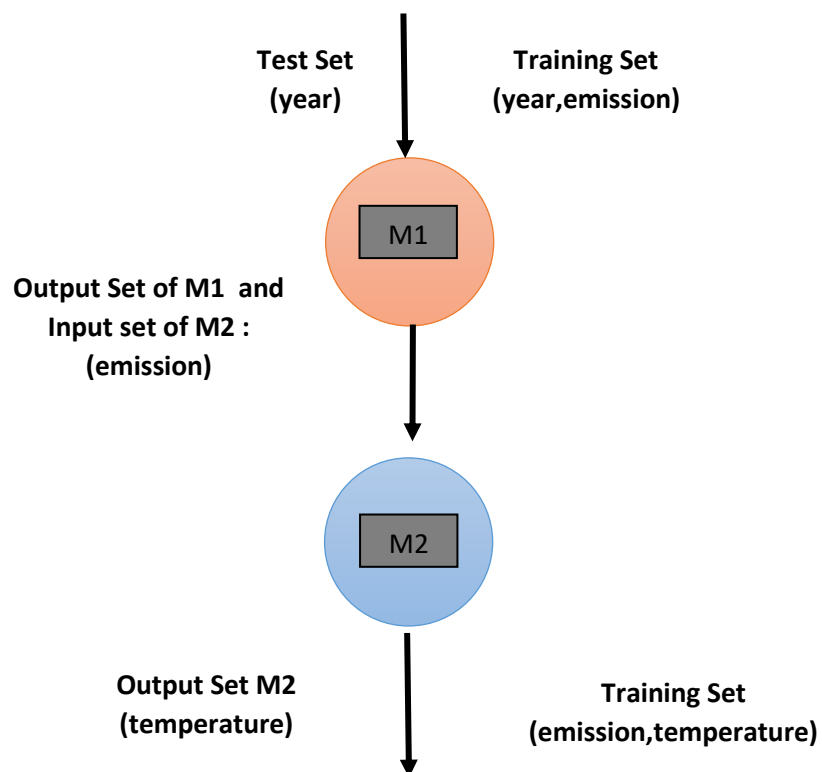
M2

Output Set M2 (temperature)   **Training Set (emission,temperature)**

Fig 0.3. Prediction Model