Introduction:

This data analysis observes the average temperature on the local and global scale and compares and summarizes the differences and similarities that have occurred on a given period of 50 years in which the world has seen rapid change due to rise of the industrial age in which might be correlated with the rise of the temperature.
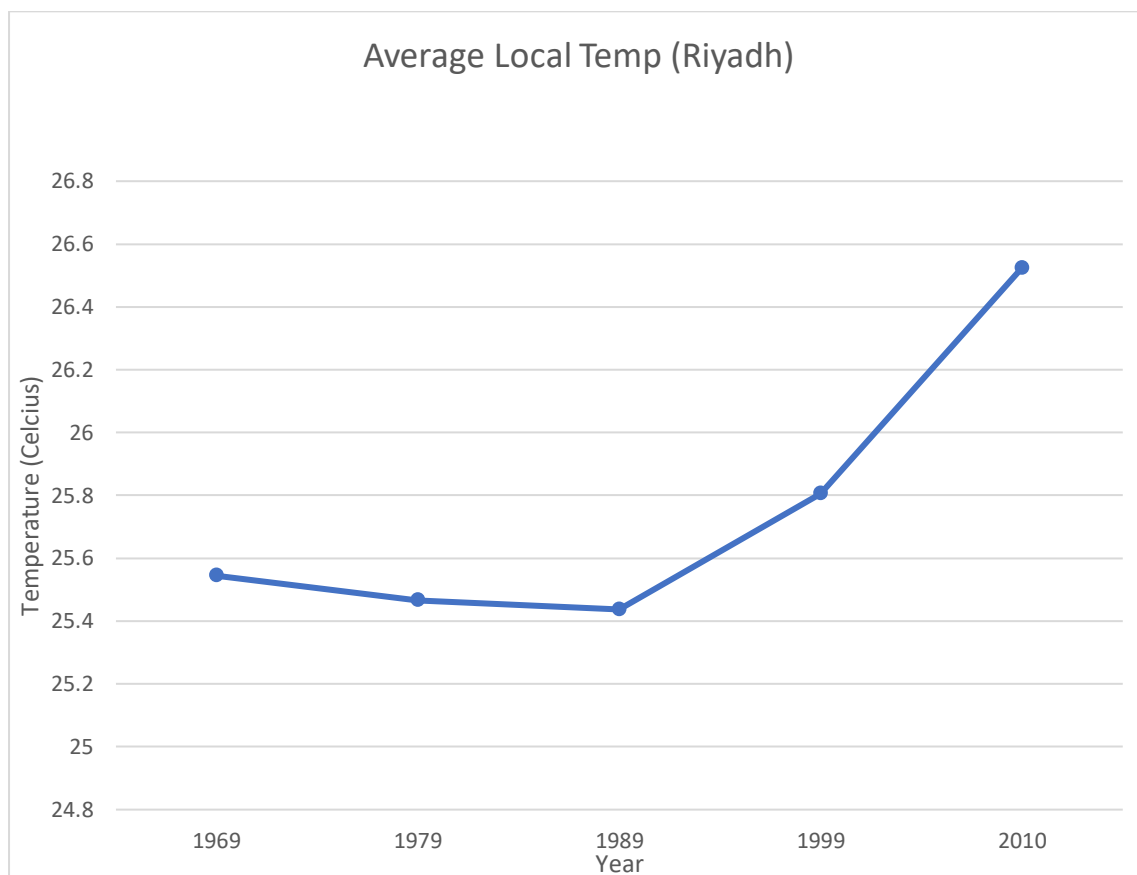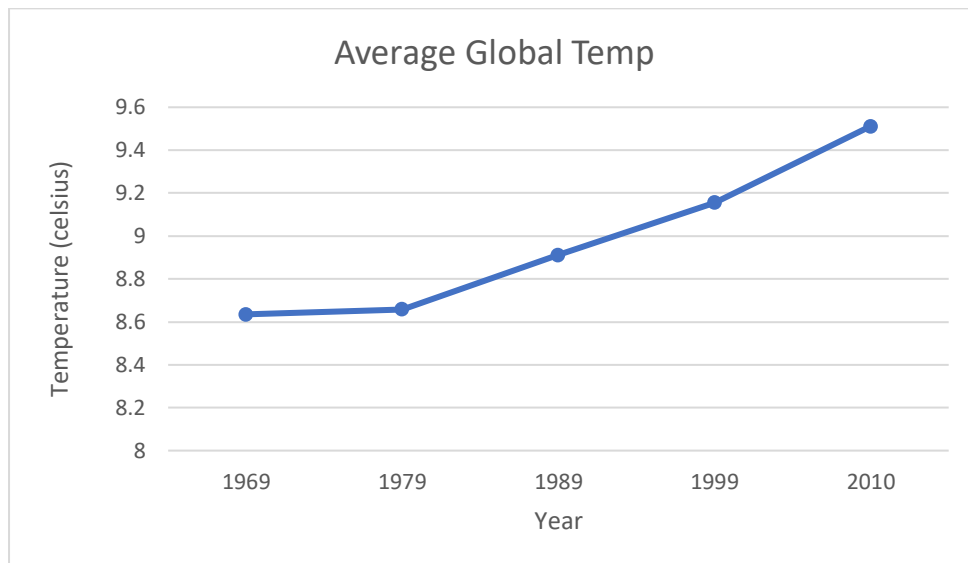
In this project I have used SQL to export data from the database and excel for data manipulation and visualization. Using excel, the moving average calculated for every 10 years was by creating a new column and calculating the temperature average of 10 years using the average function that is found in excel and finally inserting it in the cell designated for the end of each era.
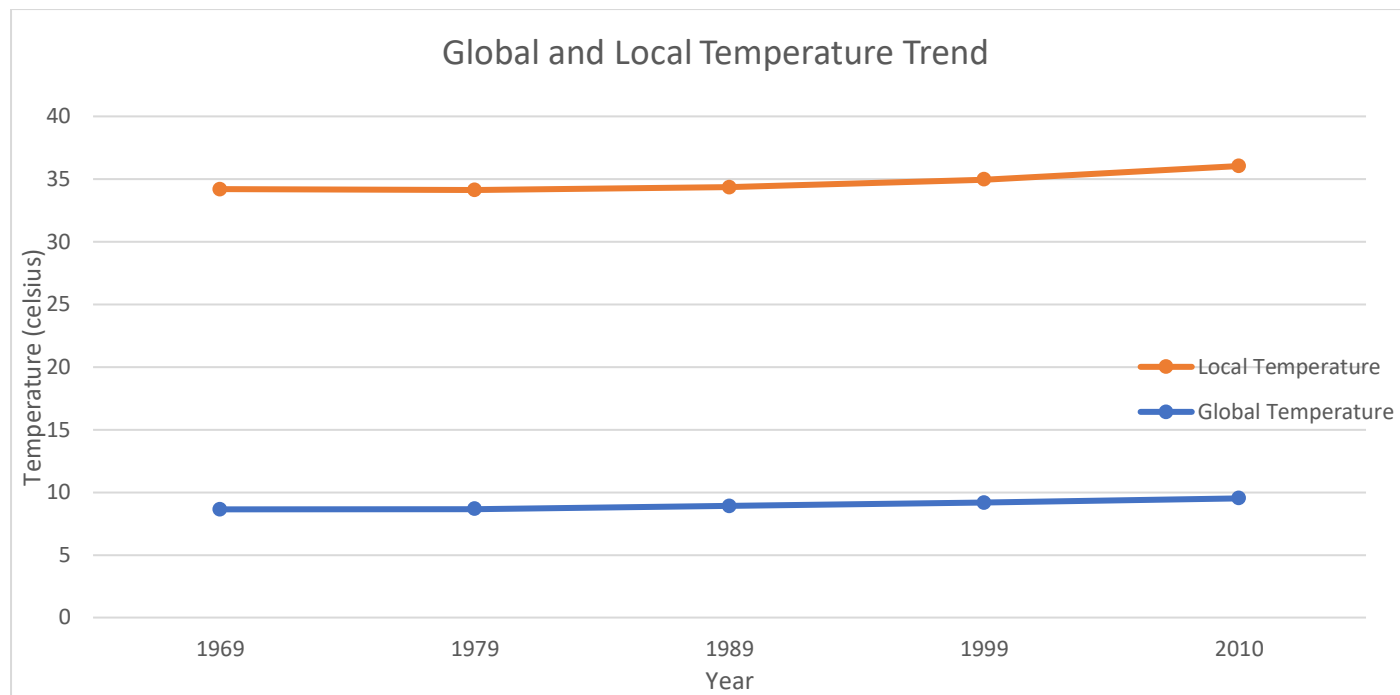
SQL queries that were used for data exporting:

```
Select year,city,avg_temp
From city_data
Where year>=1960 and year<=2010 and city='Riyadh'
```

```
Select year, avg_temp
From global_data
Where year>=1960 and year<=2010
```

Data Visualization:

Average Global Temp

Temperature (celsius) vs Year

Year	Temperature (celsius)
1969	8.63
1979	8.66
1989	8.91
1999	9.15
2010	9.51

Average Local Temp (Riyadh)

Temperature (Celcius) vs Year

Year	Temperature (Celcius)
1969	25.55
1979	25.47
1989	25.44
1999	25.81
2010	26.53

Global and Local Temperature Trend

The two charts trace the trends of weather trends over an era of 50 years and are calculated on a moving average of a 10-year period. The first chart illustrates the trend on a global scale while the second on a smaller scale which observes the weather pattern of Riyadh.

The charts show similar pattern overall in an increase of weather temperatures over a 50 year period. The global and local scale both observe an increase of an almost 1 degree rise in temperature.

The difference however appears in the actual temperatures, on average the global weather trends scale from 8 to 9.6 degrees while the local weather scales from 24.8 to 26.6 degrees. Moreover, the temperature in Riyadh appears to increase in the 1980's period while the global increase appears to increase in the 1970's period.

Observations:

- This result can be interpreted that it might be the latency of the local increase is because of the actual usage of cars and flights kicked off in that period in which it resulted in more emissions of CO_2 which led to a rise in the weather temperature.
- The overall trend of the weather temperature in both the global and local scale indicates that we're facing a serios issue of climate change.
- The local and global trends both observe an increase of an almost one degree rise in temperature.
- The rise in temperature appears to be consistent over a significant period and this only raises concerns as we might be facing further increase in the far future.