

First, I worked with SQL to prepare data. Then download it. Finally used Python to analyze data and applied line chart.

First step: ALTER TABLE

```
global_data RENAME COLUMN  
avg_temp to global_avg_temp;
```

second: ALTER TABLE

```
city_data RENAME COLUMN  
avg_temp to riyadh_avg_temp;
```

```
third: SELECT global_data.year,  
global_data.global_avg_temp, riyadh_avg_temp  
FROM global_data INNER JOIN  
city_data ON global_data.year = city_data.year  
WHERE city like 'Riyadh';
```

What I did there is collecting the average temperature of my city (Riyadh) and rename one column and the same with the global temperature. Then I added my city temperature to the global then export it. With CSV downloaded, I used Python to calculate the moving average and apply the line chart. I used pandas and matplotlib to apply the visualization.

After reading the file in Python, I found two values are missing, so I used the fillna to clean the data. Then I calculate the moving average and I used 5 years.

```
average_span = 5
```

```
moving_avg = df.rolling(window = average_span, on = "year").mean().dropna()
```

```
plt.plot(moving_avg['year'], moving_avg['riyadh_avg_temp'], label='Riyadh')
```

```
plt.plot(moving_avg['year'], moving_avg['global_avg_temp'], label='Global')
```

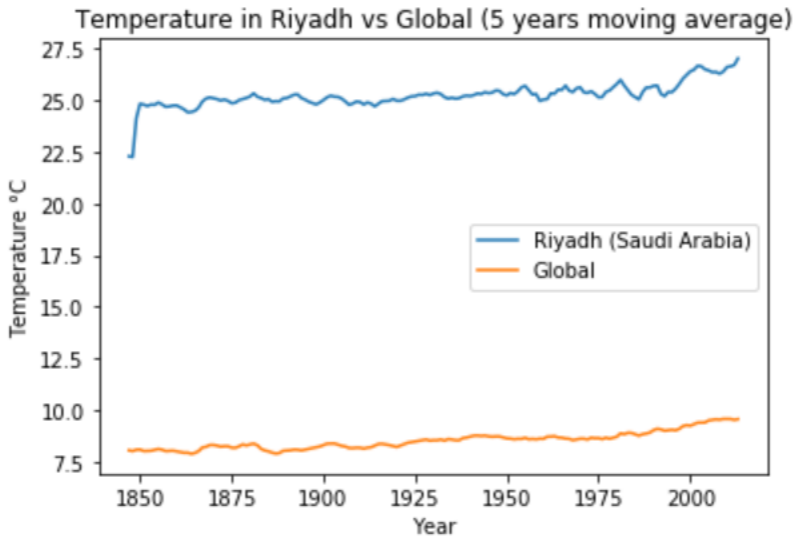
```
plt.legend()
```

```
plt.xlabel("Year")
```

```
plt.ylabel("Temperature °C")
```

```
plt.title("Temperature in Riyadh vs Global ({} years moving average)".format(average_span))
```

```
plt.show()
```



- Riyadh is a way hotter than the global.
- The temperature is increasing overtime specially in Riyadh in 90s which remind us of how we close to global warming.
- We can see that the two lines slop are almost moving the same.
- Climate change in Riyadh is happing quicker and faster than it is globally.