Explore Whether Trends

Goals:-

1.) Extraction of data from given database and export to csv file.
2.) Make a line chart using extracted data.
3.) Data visualisation and make observation.

Tools

1.)SQL
4.)Google Sheets

Step 1- Extraction of data from Database using sql

1.)To see cities in india

```
SELECT city FROM city_list WHERE country='India';
```

2.)To change the name of avg_temp to city_avg_temp and global_avg_temp

```
ALTER TABLE city_data RENAME COLUMN avg_temp to CITY_AVG_TEMP;
ALTER TABLE global_data RENAME COLUMN avg_temp to GLOBAL_AVG_TEMP;
```

3.) Join the two tables

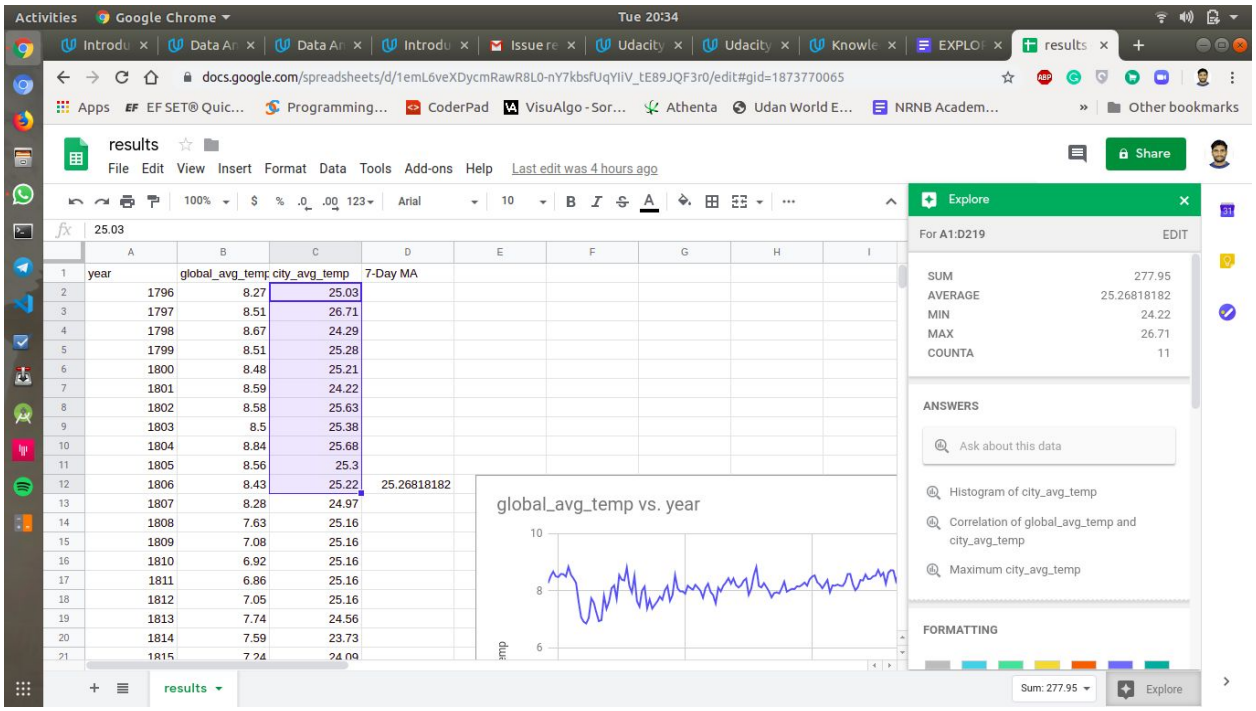
```
SELECT
Global_data.year, global_data.GLOBAL_AVG_TEMP, city_data.CITY_AVG_TEMP
FROM   global_data join city_data
ON    global_data.year = city_data.year
WHERE city LIKE  'New Delhi';
```

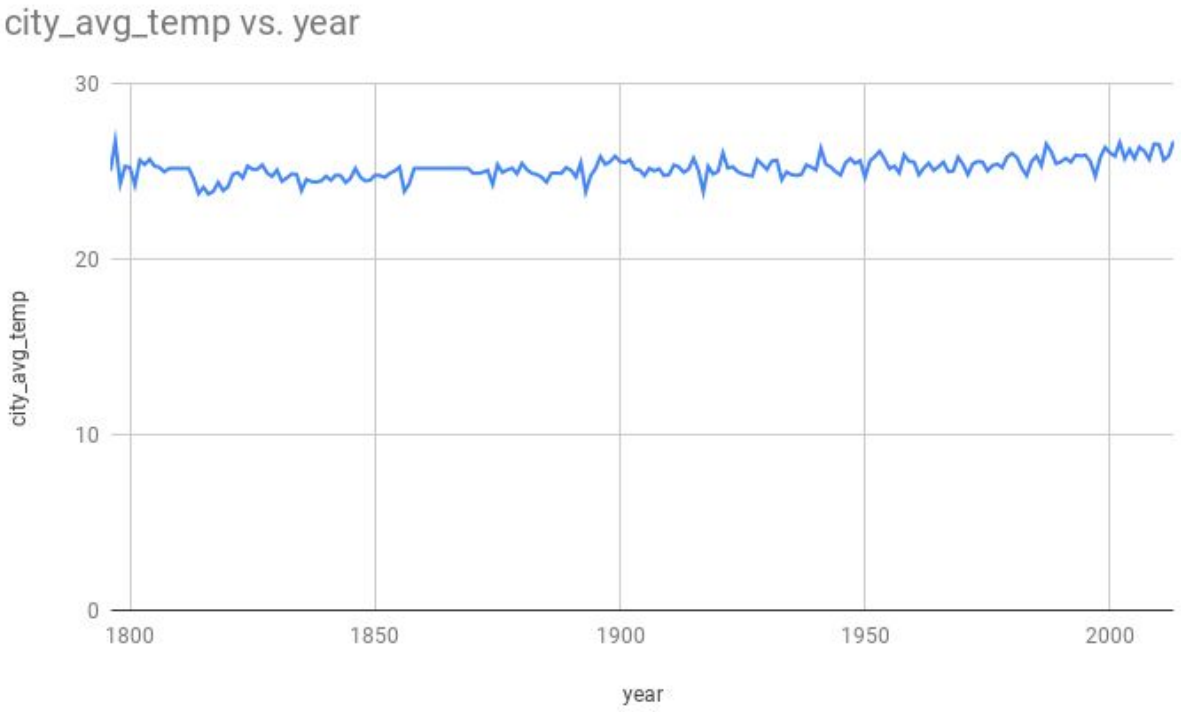
Step 2- LIne Chart for average temperature of city using google sheet.

To calculate the average of temperature using command
=average(Cell2:Cell12) for year 1796 to 1806.

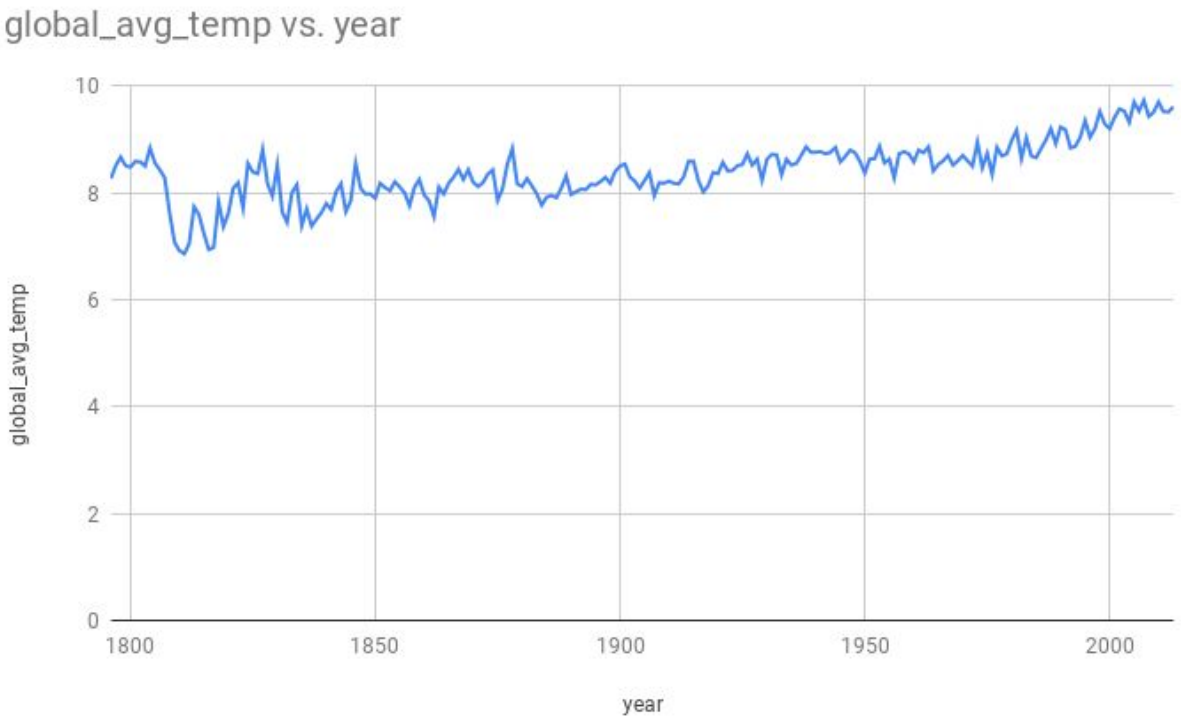
Average Temperature unit in degree celsius for Y-axis. City_avg_temp and global_avg_temp unit is also in degree celsius.

There was some missing data in city temperature which is filled by calculating the mean of values of the whole column and paste that mean to missing cells.

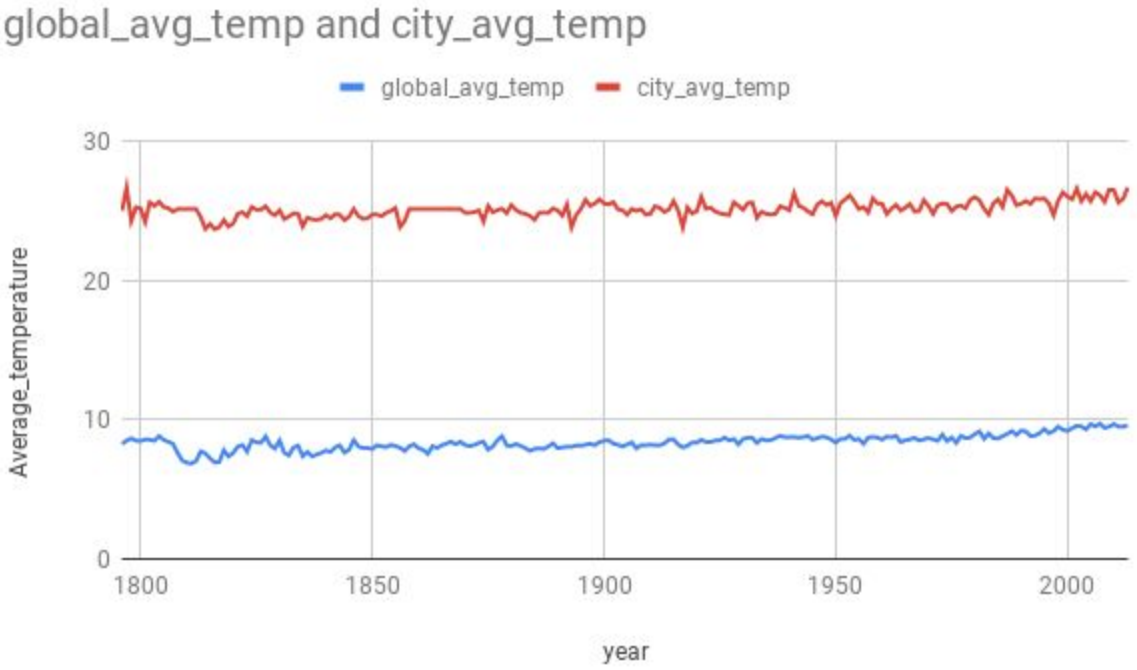




Note:Temperature Unit is degree celsius for Y-axis



Note:Temperature Unit is degree celsius for Y-axis



Note:Temperature Unit is degree celsius for Y-axis

Step 3- Observation

Difference

1.) City average temperature is much higher than global average temperature.
2.) Global average temperature is increasing faster than city average temperature.

Similarities

1.) Both city_avg_temp and global_avg_temp graph shows an increase in average temperature with time.
2.) The world is getting hotter with consistent increase in temperature with time.