Project: **Exploring Weather Trends**

Steps:

1)download world temp data

2)download city wise temp data specific to Pune city by using below query

select city, year, avg_temp from city_data where city = 'Pune'

3)for world temp data we have extra years compare to pune city information

So we will remove some data

We have data of pune city from:1796 to 2013

4)we have few null values in pune city temp data

so we will delete that rows as well from the both csv file.

5)now we will use calculate moving avg for 5 years,10years,15 years

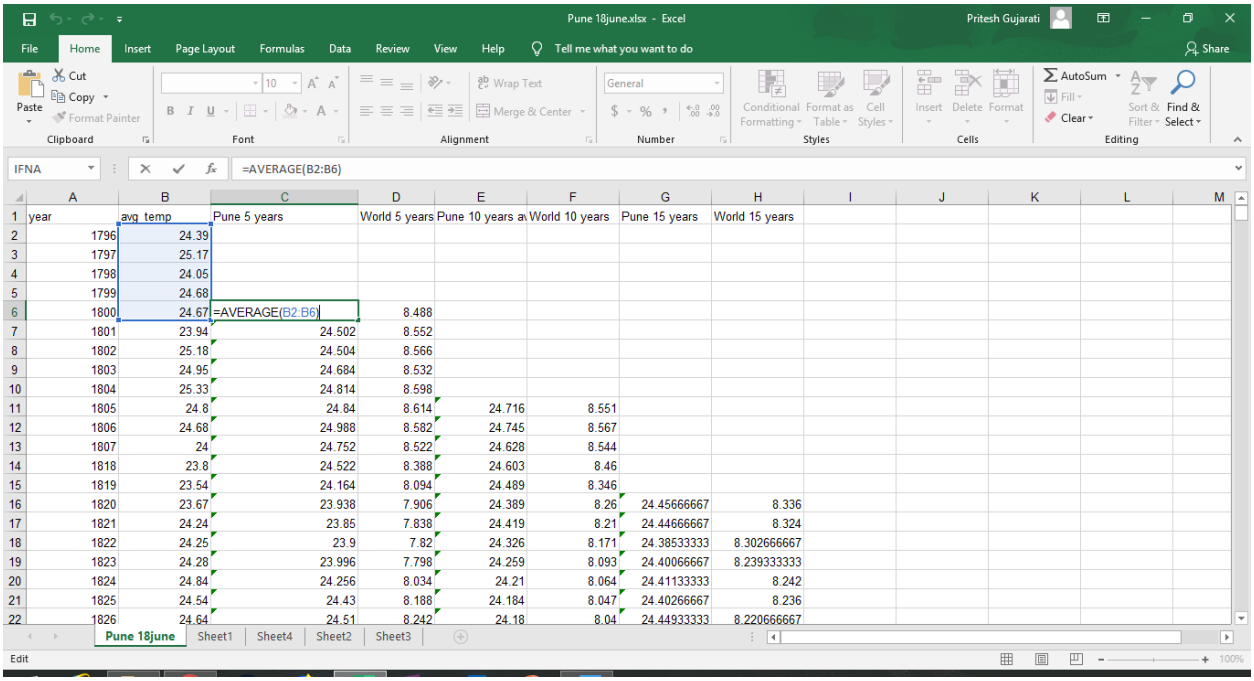
We will use simple math function average.

For 5 years we will take 5 years temperature.

We will do this for 10 years and 15 years.

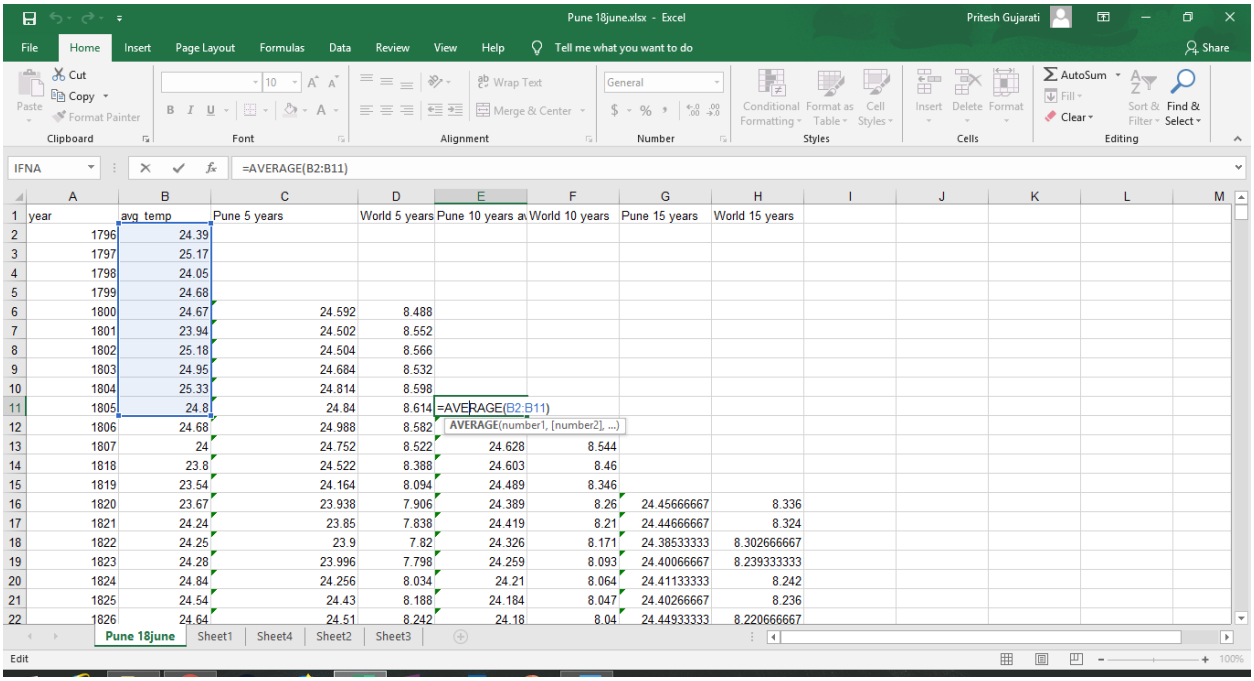
We will just modify the years in average.

5 years moving average.

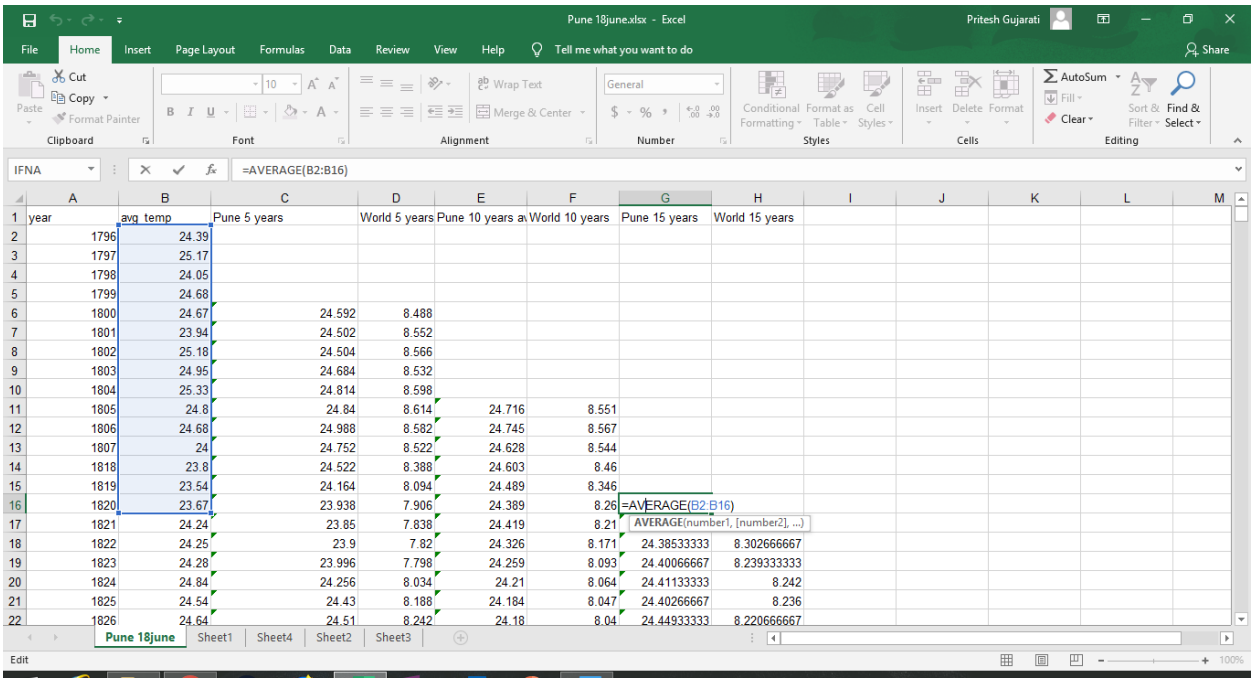


year	avg_temp	Pune 5 years	World 5 years	Pune 10 years a	World 10 years	Pune 15 years	World 15 years
1796	24.39						
1797	25.17						
1798	24.05						
1799	24.68						
1800	24.67	=AVERAGE(B2:B6)	8.488				
1801	23.94	24.502	8.552				
1802	25.18	24.504	8.566				
1803	24.95	24.684	8.532				
1804	25.33	24.814	8.598				
1805	24.8	24.84	8.614	24.716	8.551		
1806	24.68	24.988	8.582	24.745	8.567		
1807	24	24.752	8.522	24.628	8.544		
1818	23.8	24.522	8.388	24.603	8.46		
1819	23.54	24.164	8.094	24.489	8.346		
1820	23.67	23.938	7.906	24.389	8.26	24.45666667	8.336
1821	24.24	23.85	7.838	24.419	8.21	24.44666667	8.324
1822	24.25	23.9	7.82	24.326	8.171	24.38533333	8.302666667
1823	24.28	23.996	7.798	24.259	8.093	24.40066667	8.239333333
1824	24.84	24.256	8.034	24.21	8.064	24.41133333	8.242
1825	24.54	24.43	8.188	24.184	8.047	24.40266667	8.236
1826	24.64	24.51	8.242	24.18	8.04	24.44933333	8.220666667

10 years moving average.



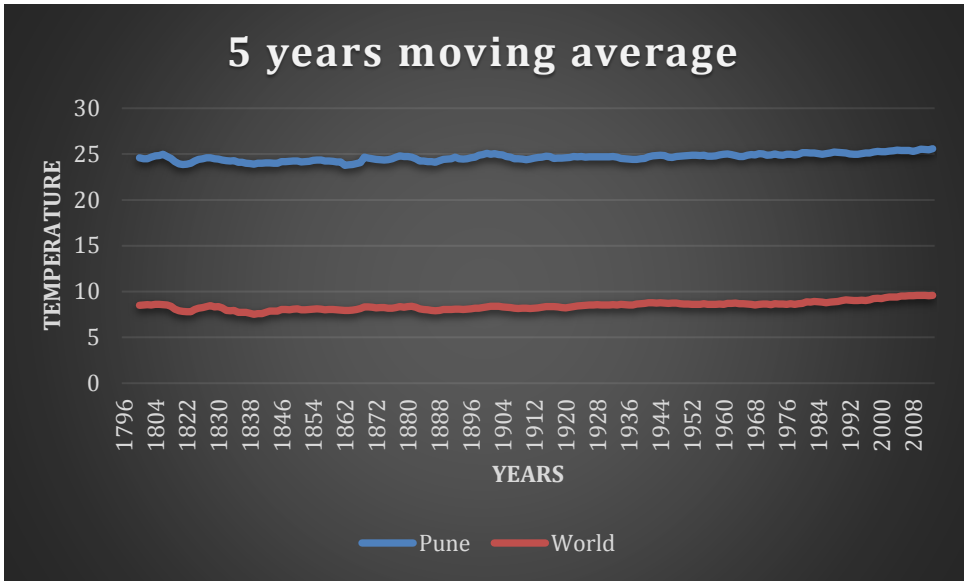
15 years moving average.



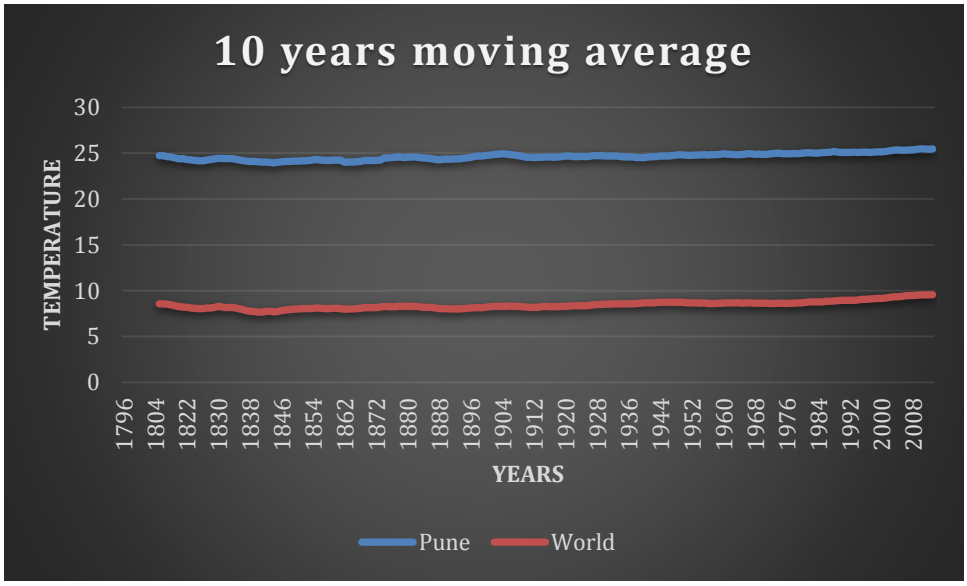
6)we will get moving avg for world temp as well as pune city temp

7)after this we will have 3 graphs

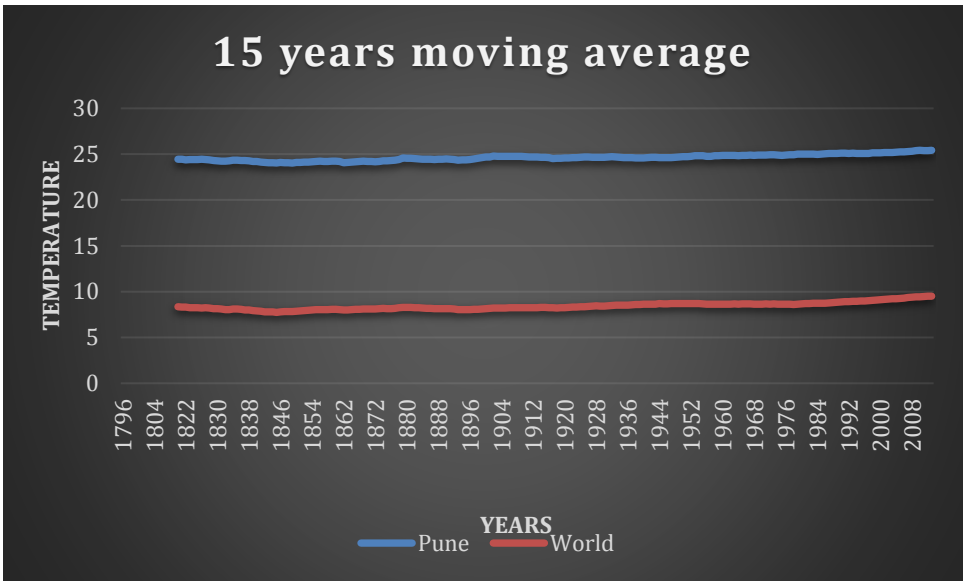
1. with 5 years moving avg



2.with 10 years moving avg



3.with 10 years moving avg



Observations:

1) Pune city and world's temperature both lines are kind of parallel.
2) As we can see from all the graph the temperature of world and Pune city is increase year by year.
3) Both lines are inclined as temperature is growing.
4) Difference in temperature in Pune and world are:

Moving avg.	5 years	10 years	15 years
Moving avg difference	15.885	15.49653	15.10737

5) Difference in temperature for Pune and world by years are:

Year	Pune	World
1800-2013 (5 years moving avg)	0.994	1.082
1805-2013 (10 years moving avg)	0.73	1.005
1820-2013 (15 years moving avg)	0.966	1.168