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**MiniProject#2**

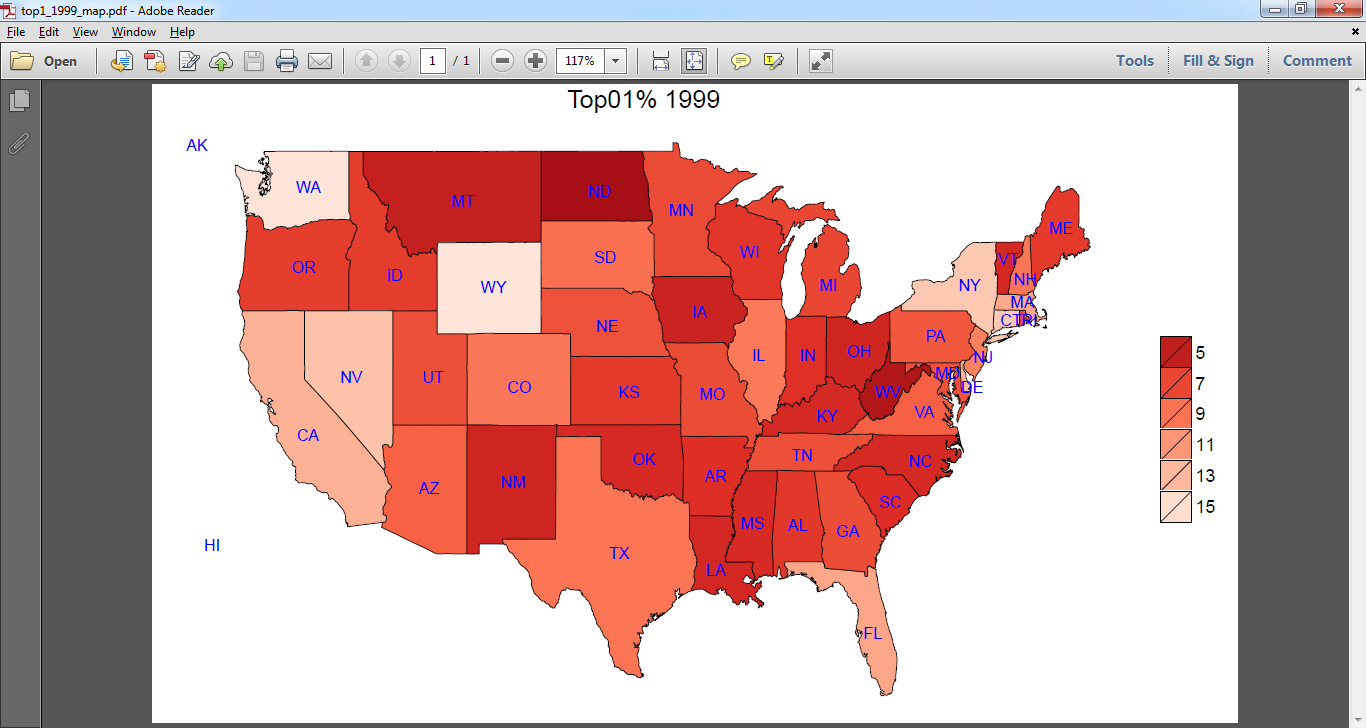
**Overview:**

Simulation of Experiment:

**Experiment Results and Observation:**

**2.a**

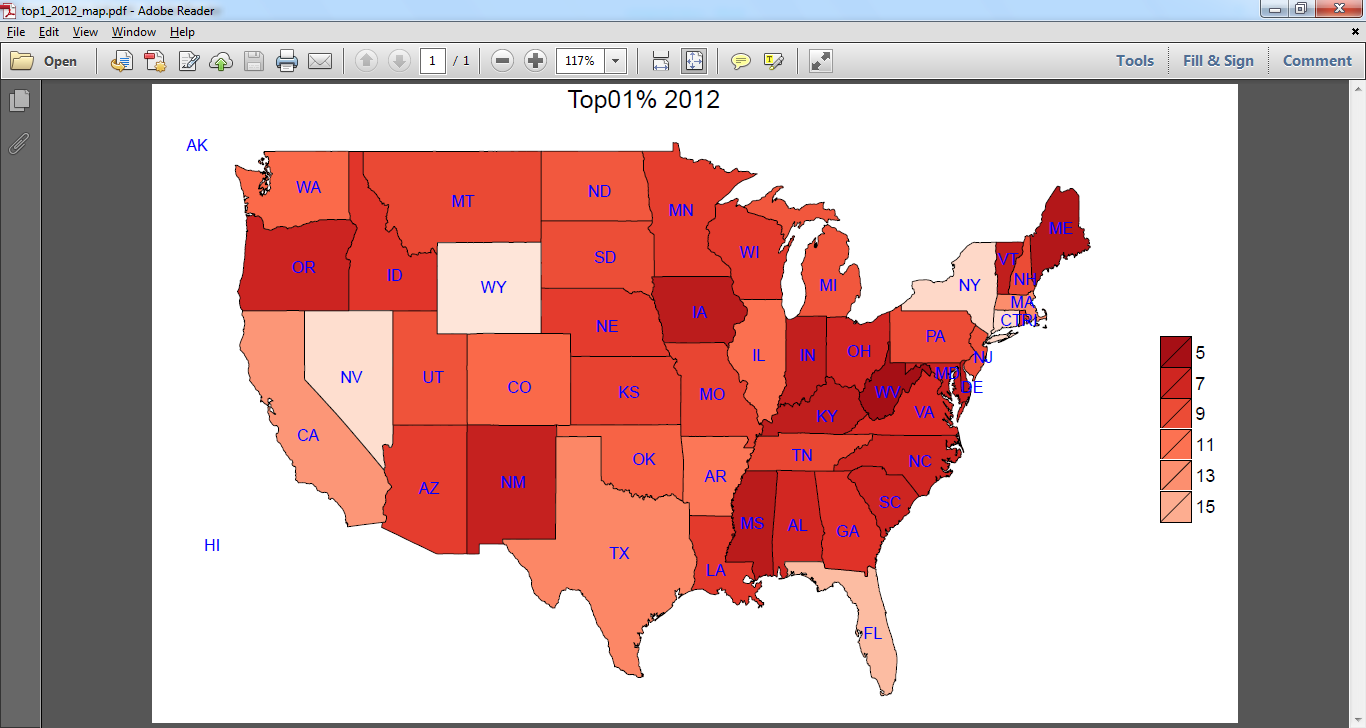
For year 1999 top 1% Income Share



Observation:

The best is between WA and WY. Most of the states have value between 7 and 9. So the mean must lie between 7 and 9. After calculation we get mean as 7.96.

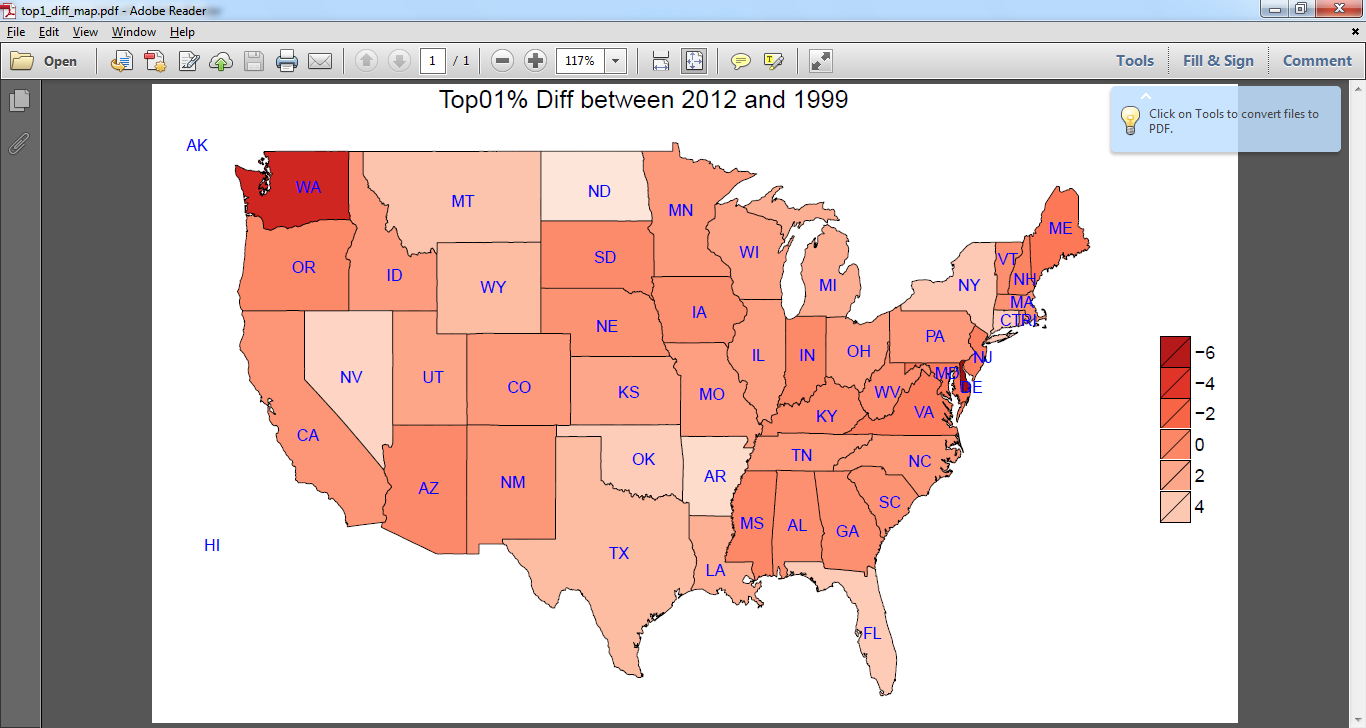
For year 2012 Top 1% Income share



Observation:

In this case maximum is between WY and NV and in this case most of the states have value between 9 and 11 so mean is between 9 and 11. After mean calculation we get value as 9.13.

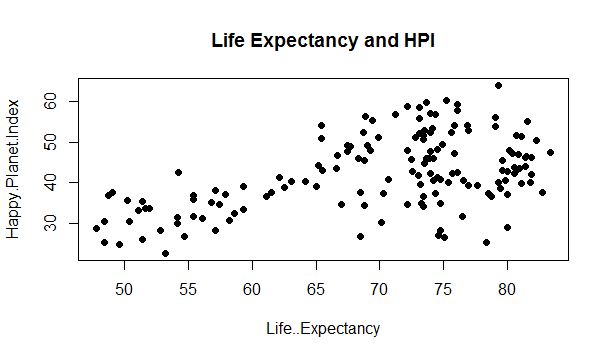
For diff Top 1% (2012 -1999)



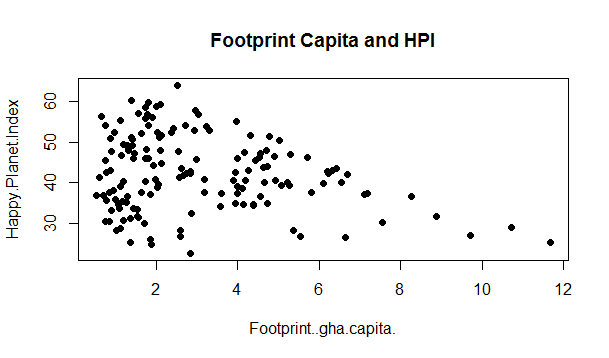
Observation: clearly the state WA has a significant reduction in Income share from 1999 and 2012. States like NV and ND has a significant increase in Income share from 1999 and 2012 which is close to maximum increase in Income share between 1999 and 2012.

**2.b**

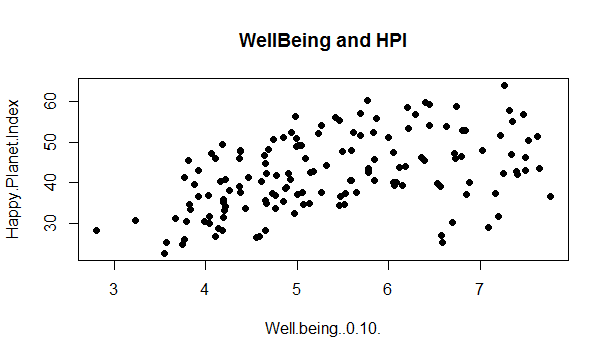
Drawing scatter plot of HPI against Life expectancy we get plot as given below:



HPI against Footprint Capita



HPI against Well Being



Observation:

Clearly from the scatter plot it is obvious that:

1. HPI increases as with the increase in Life expectancy.
2. HPI decreases as with the increase in FootPrint Capita.
3. HPI increase as with the increase in wellbeing.

Now seeing this scatter plot we can easily infer that there is relation of HPI with all the three variables. To understand the extent of relation we can understand the correlation of HPI with these 3 variables.

Correlation of HPI with Footprint Capita: -0.2382588

Correlation of HPI with wellbeing: 0.4530088

Correlation of HPI with Life Expectancy: 0.5109242

From results of correlation it is clear that HPI is highly related to life expectancy.