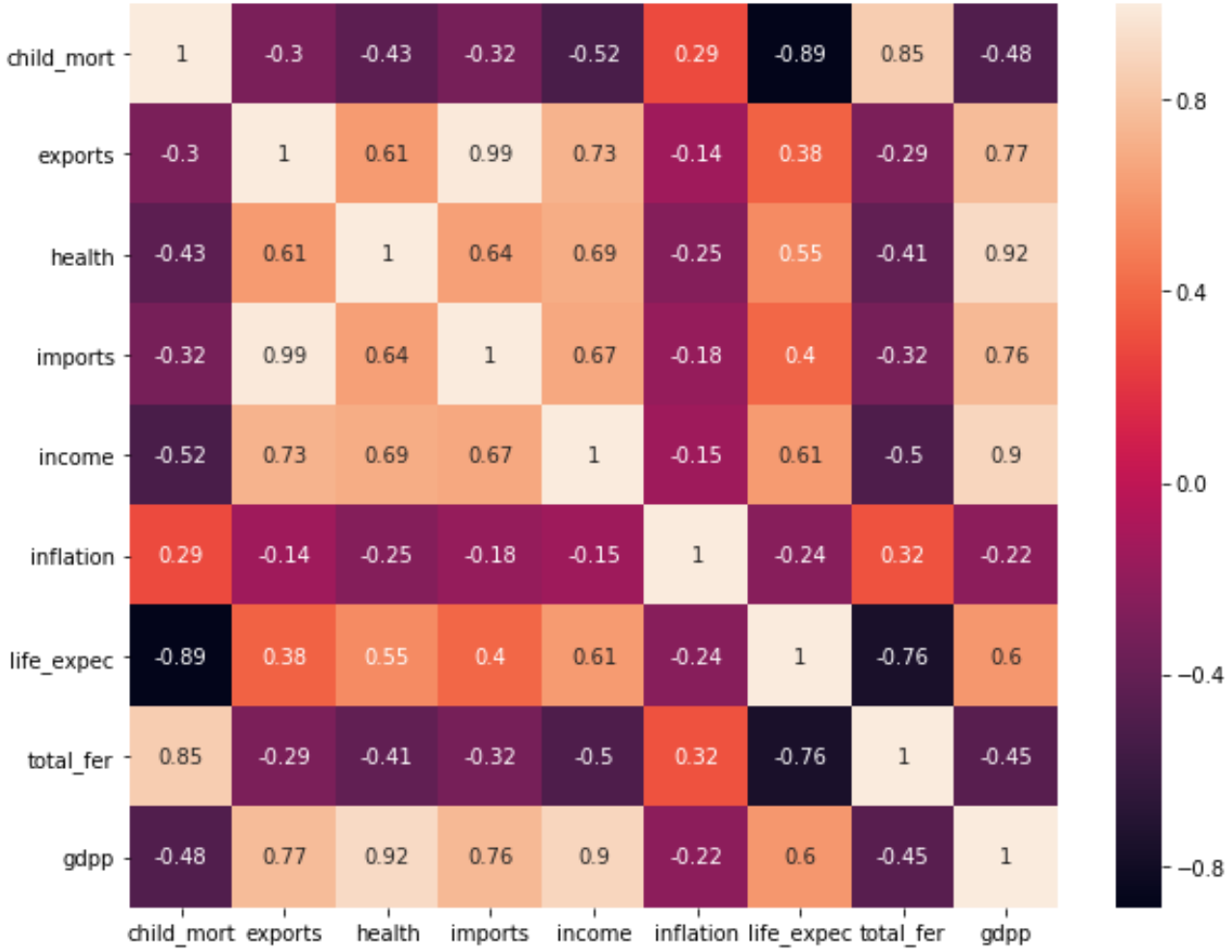
CLUSTER ASSIGNMENT

HEAT MAP

1. High correlation between child mortality and life expectancy. There is negative correlation between them i.e. inversely proportional to each other.
2. High positive correlation between imports and exports i.e. directly proportional to each other



GDPP
VS
LIFE EXPECTANCY

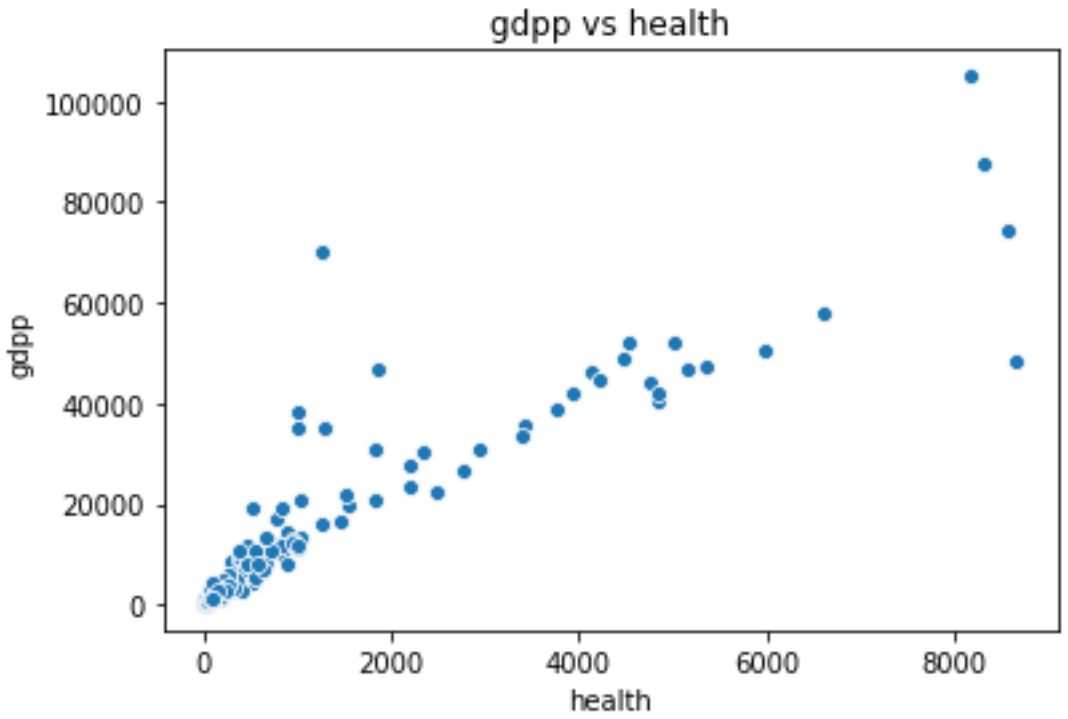
There is a positive relation between GDPP and Life expectancy.

As the GDPP of Countries is increasing Life Expectancy is also increasing.

GDPP VS HEALTH

GDPP and Health has a positive relation between them.

There is a cluster at the beginning and then scattered as the GDPP and Health is increased.

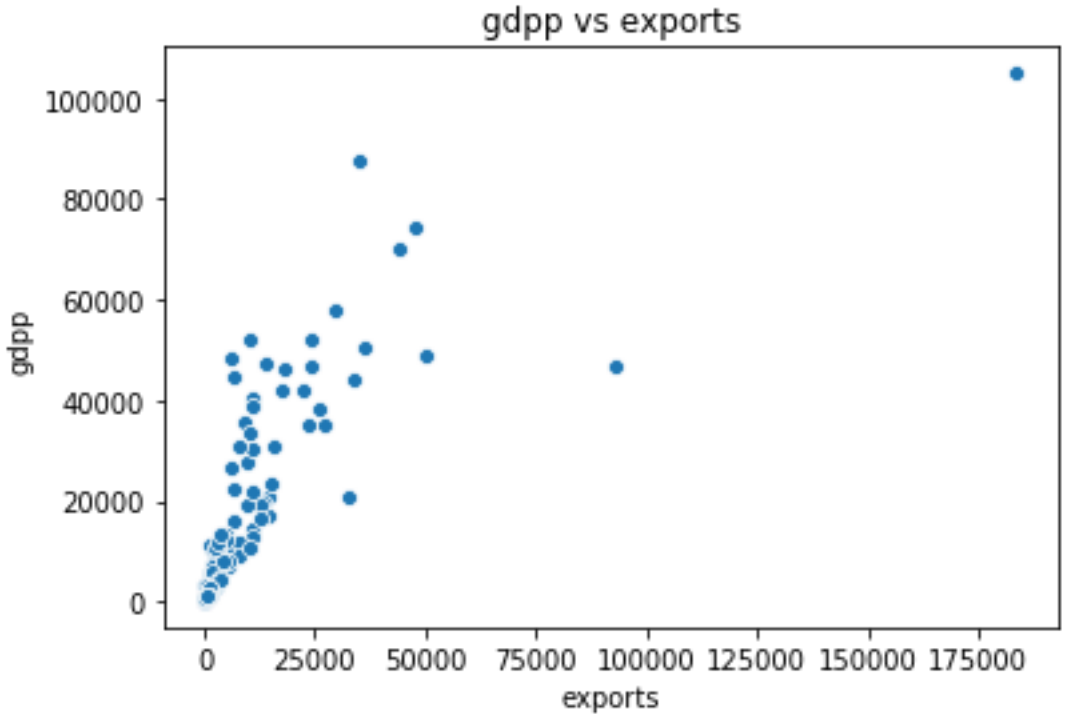


GDPP VS EXPORTS

There is a positive relationship between GDPP and Exports and rightly so.

As the GDPP increased countries will export more.

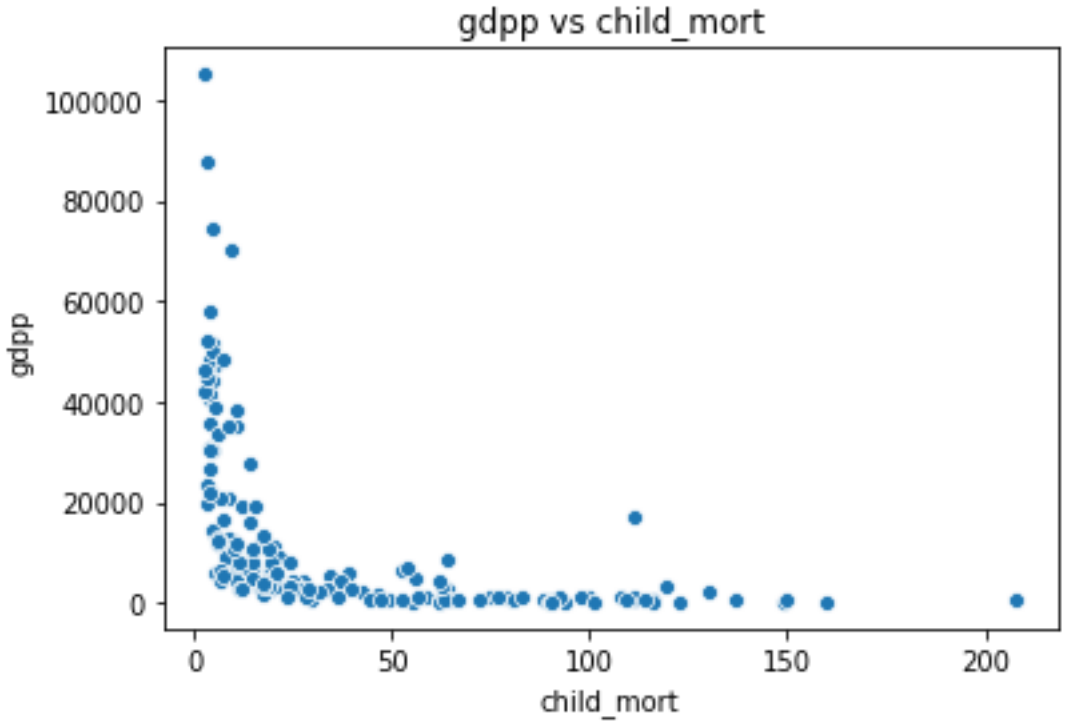
Certain outliers are present.



GDPP
VS
CHILD_MORT

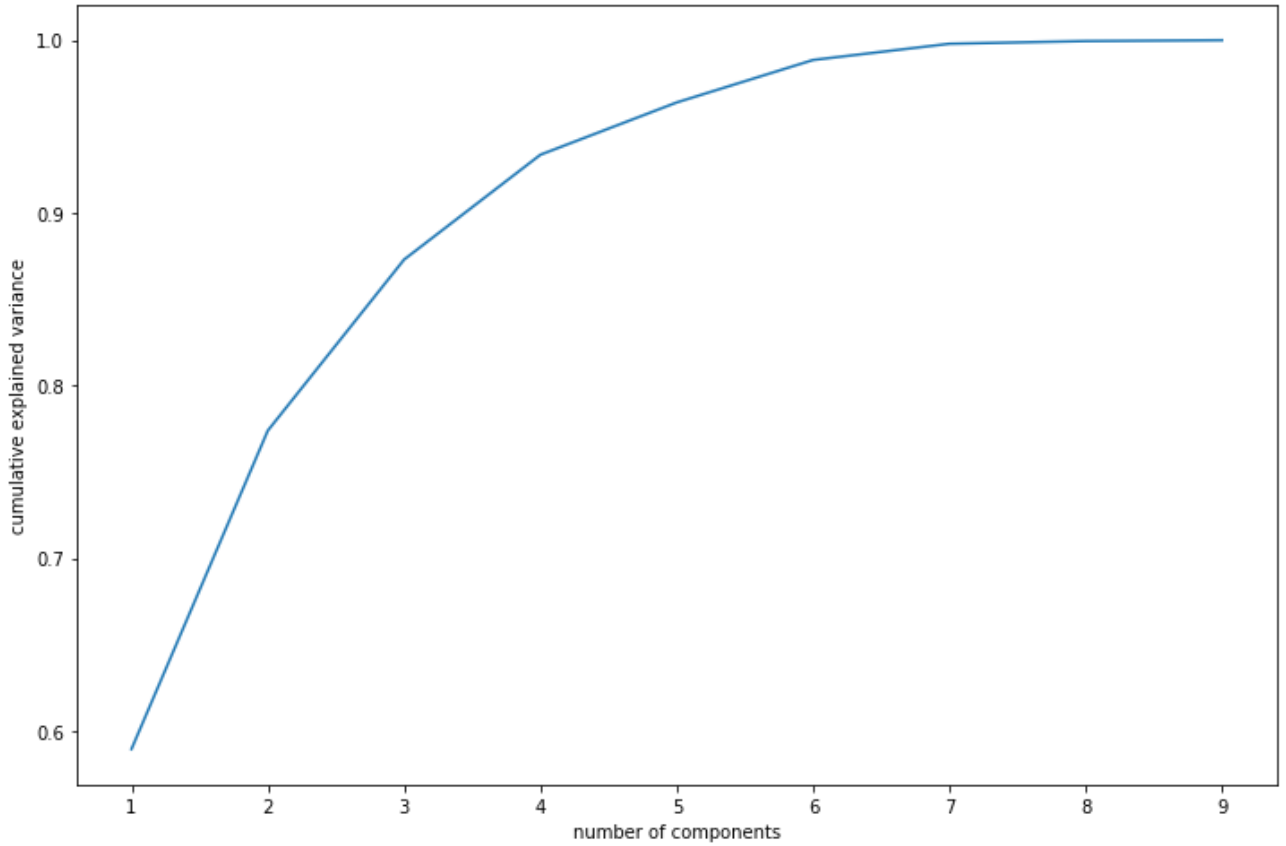
There is a negative relation between GDPP and child mortality.

As the GDPP increased death of child (below 5 years of age) will decrease in the countries.



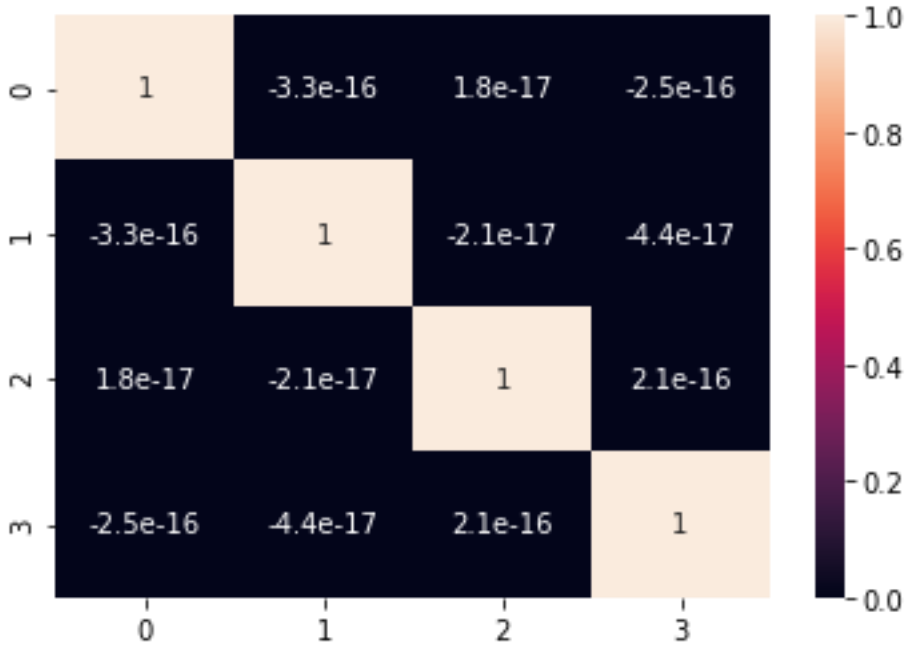
SCREE PLOT

Through Scree Plot we come to know that 4 components are enough to describe around 92% of the variance in the dataset.



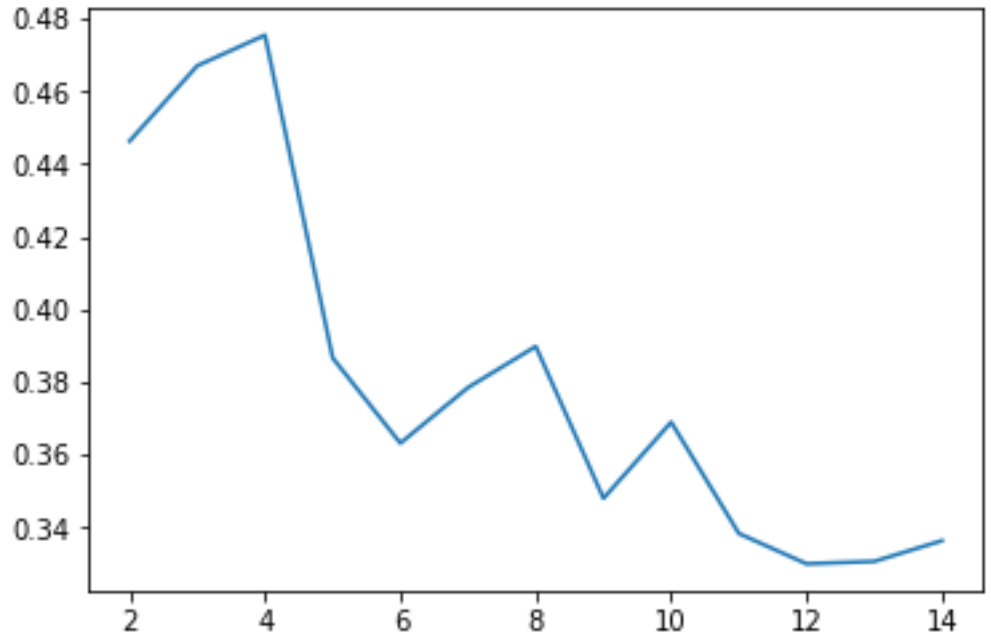
HEAT MAP

Through Heat map we can see that there is no multicollinearity after we performed PCA.



SILHOUETTE SCORE

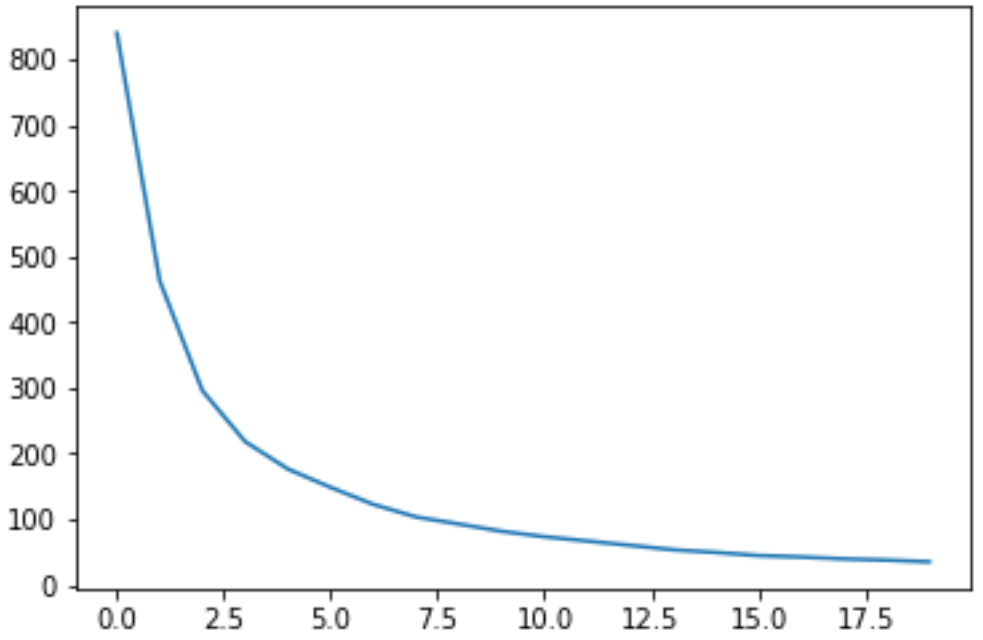
Through The plot we determined the no of clusters will be 4 i.e. K = 4 or K = 5



ELBOW PLOT

Through Elbow plots we get K = 4 or 5

Where there is a curve, there it shows the value of K.

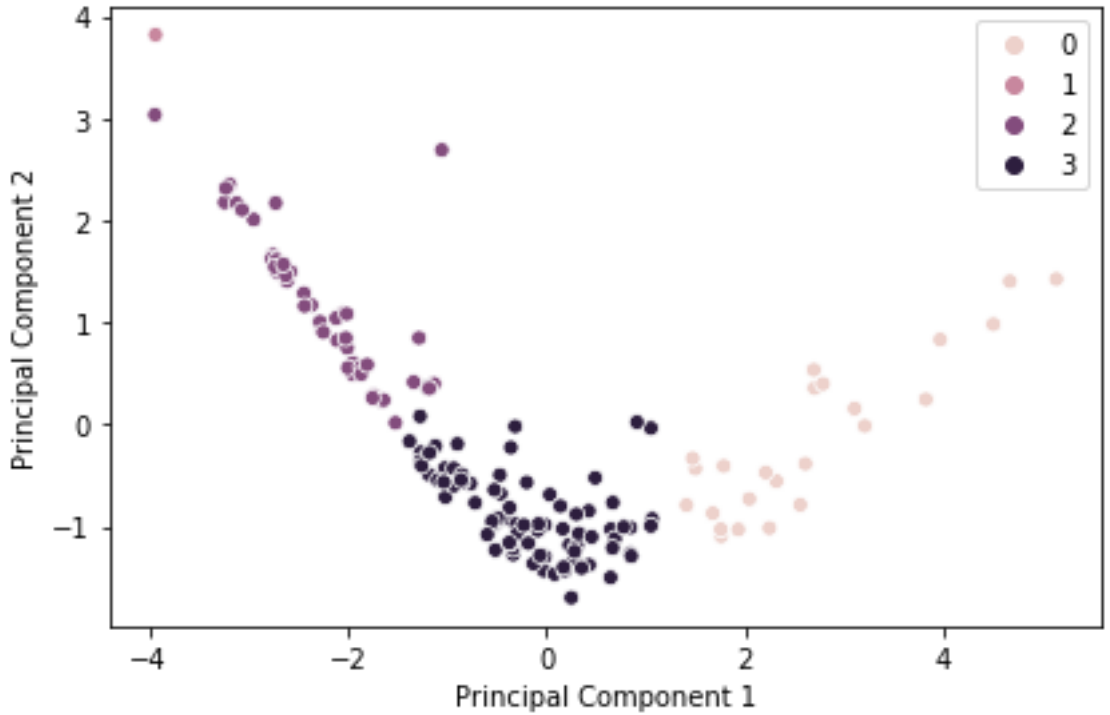


PC1 VS PC2

PC1 and PC2 are Principal Components we get from PCA.

In the plot, there are 4 clusters i.e. 0,1,2,3 and these are distinctively separate from each other.

Different clusters are presented by different colors.



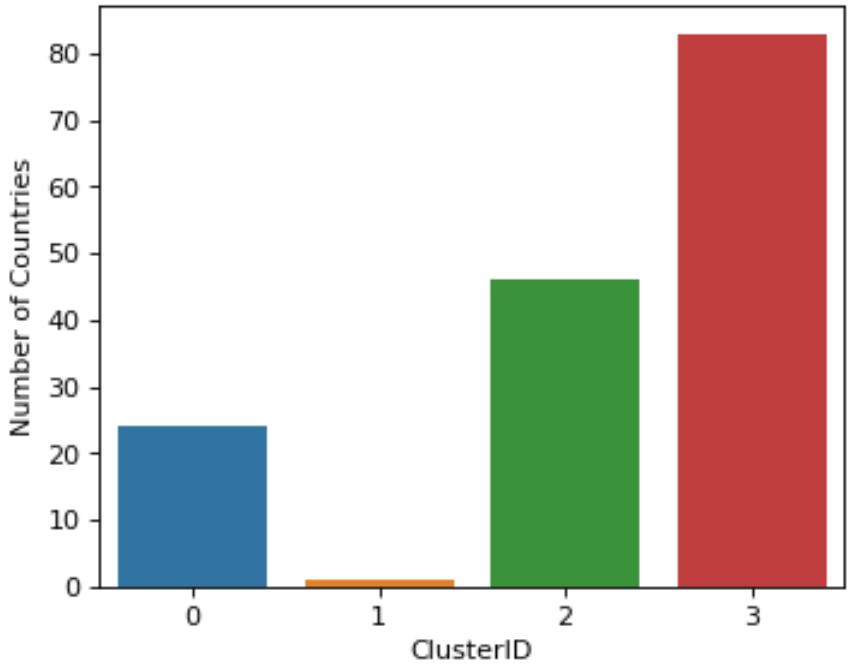
BAR GRAPH

Cluster 0 = 24 countries

Cluster 1 = 1 country

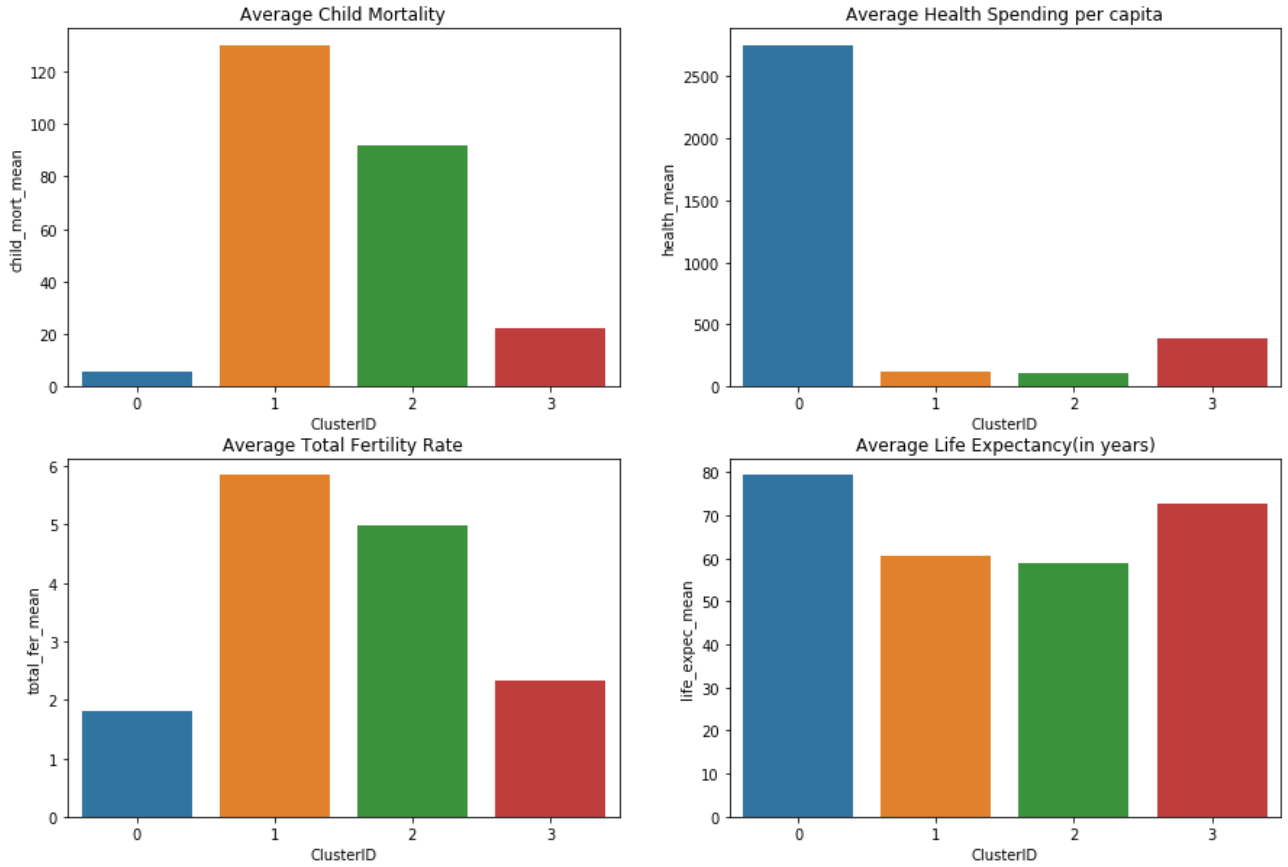
Cluster 2 = 46 countries

Cluster 3 = 83 countries



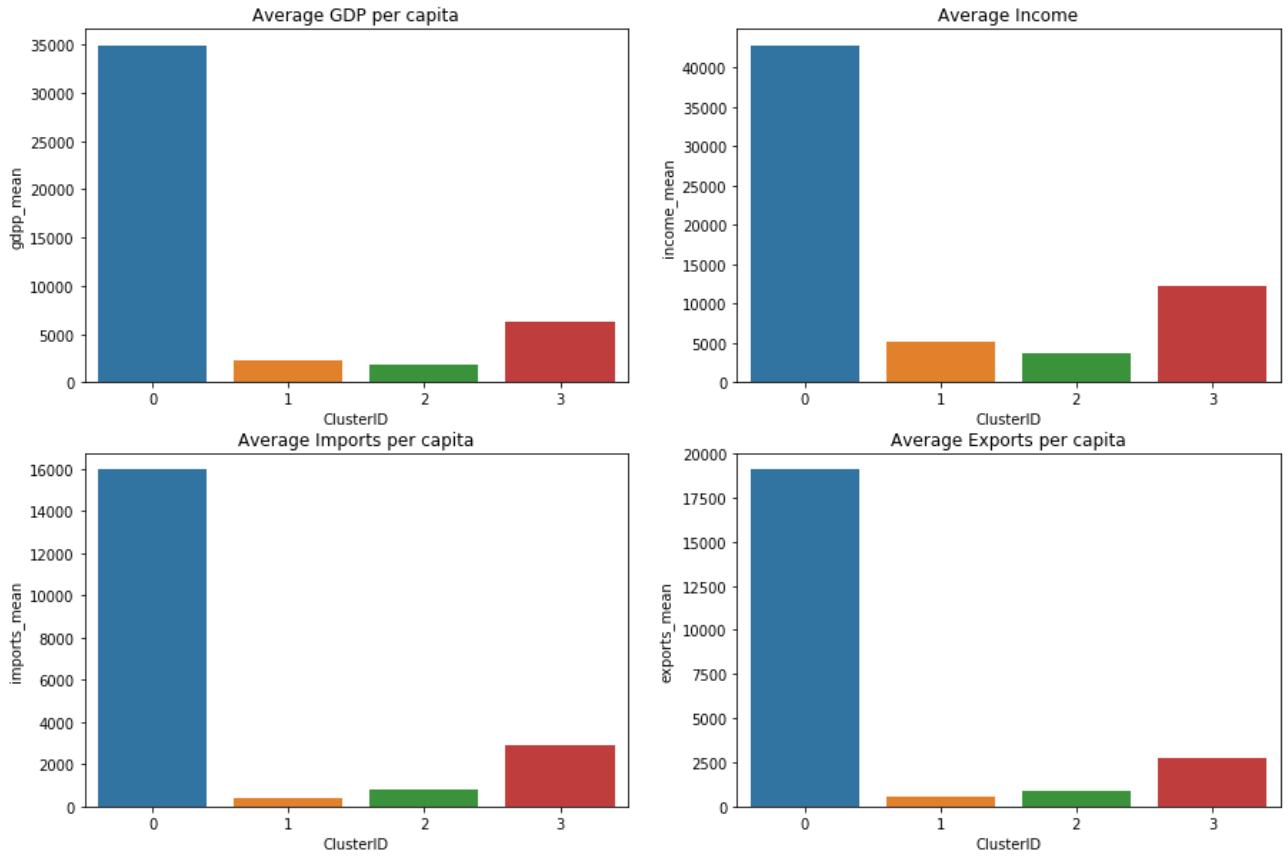
BAR GRAPH

1. In first Plot we can see that Average Mortality rate is higher in Cluster 1 and least in Cluster 0.
2. In 2nd plot, Average Health Spending per capita is higher in Cluster 0 i.e the countries in this cluster are developed countries. The least is in Cluster 1 and 2 so they are developing countries.
3. In 3rd plot, Average Total Fertility Rate is higher in countries which are in cluster 1 and followed by cluster 2.
4. In 4th plot, Average Life expectancy is higher in cluster 0 and lowest in cluster 2



BAR GRAPH

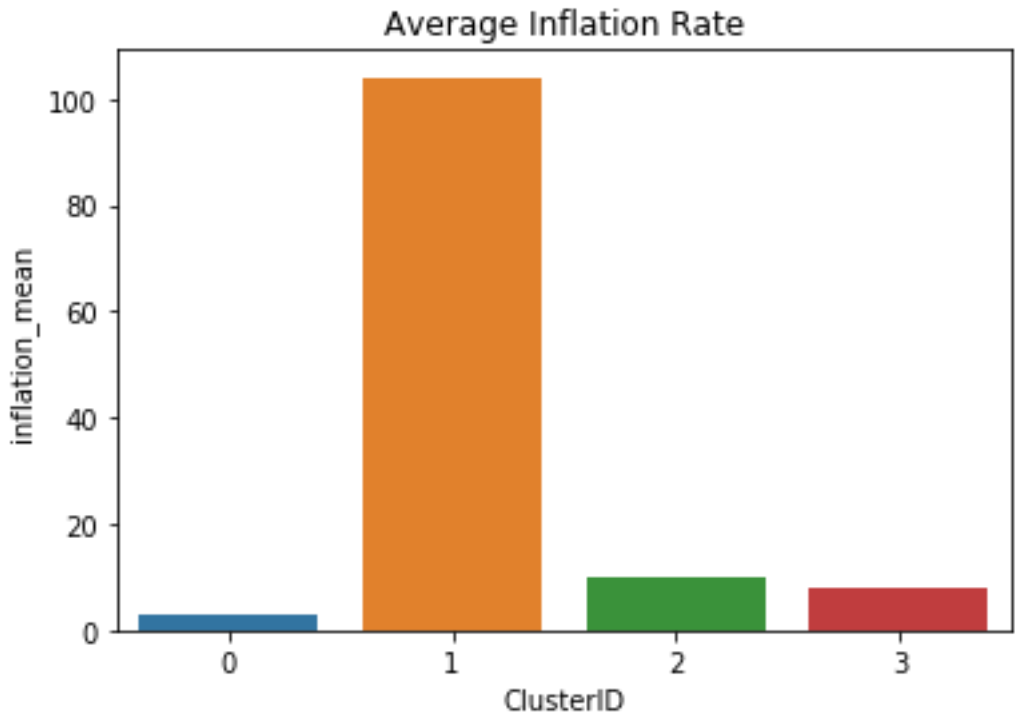
1. In 1st plot, Average GDP is higher in countries which are in cluster 0 i.e. they are developed countries. And lower in Cluster 2 means they are developing countries and needed to be looed after
2. In 2nd plot, Avg Income is higher in Cluster 0 countries which are developed
3. In 3rd plot, Average imports are lower in cluster 1 and cluster 2 and needed to be looked after.
4. In 4th Plot, Avg Exports is higher and lower in cluster 0 (developed) and cluster 1 & 2 (developing countries)



BAR GRAPH

Average Inflation is higher in countries hich are cluster 1 and 2.

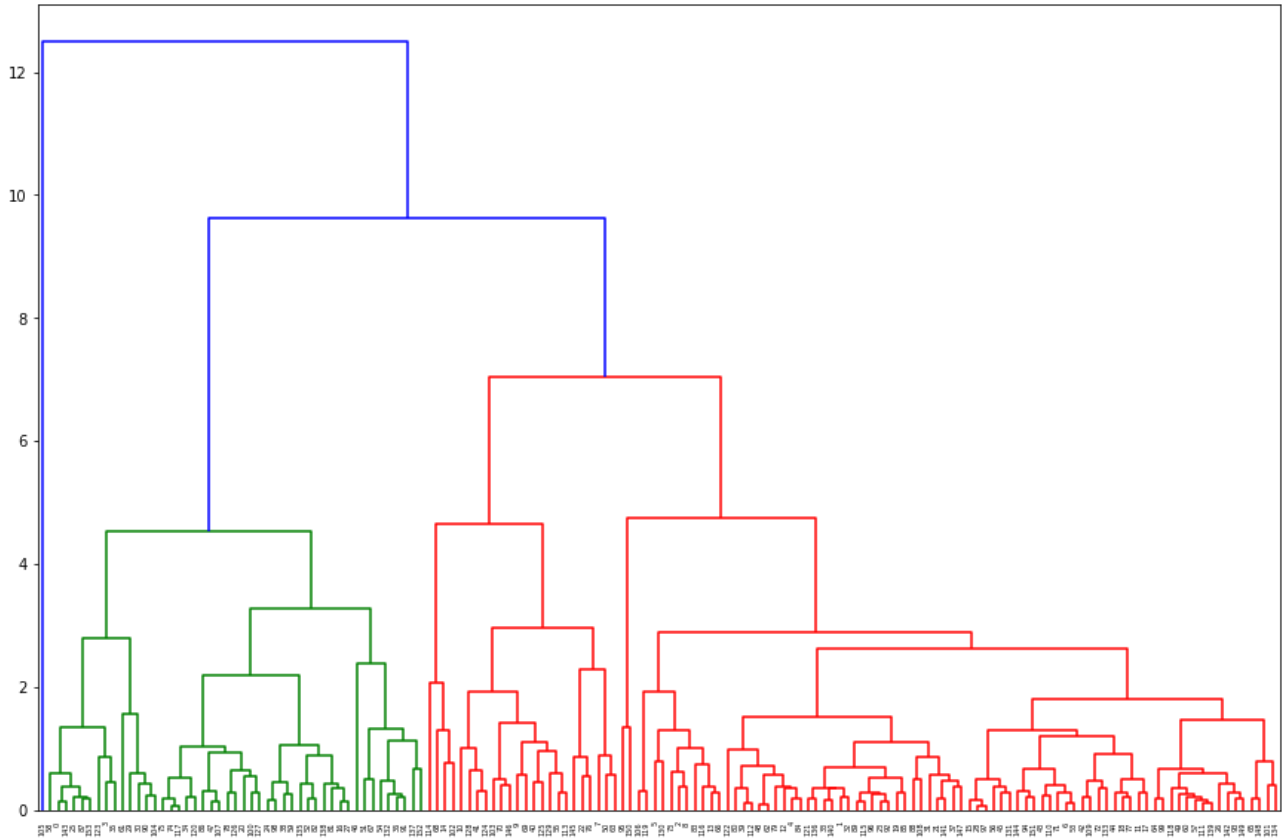
These countries are needed to be looked after by the HELP NGO to help them



HIERARCHICAL CLUSTERING

In Hierarchical clustering, the horizontal line will cut the dendograms and no of lines it will cut the value of K will be that.

In this case we take K = 4.



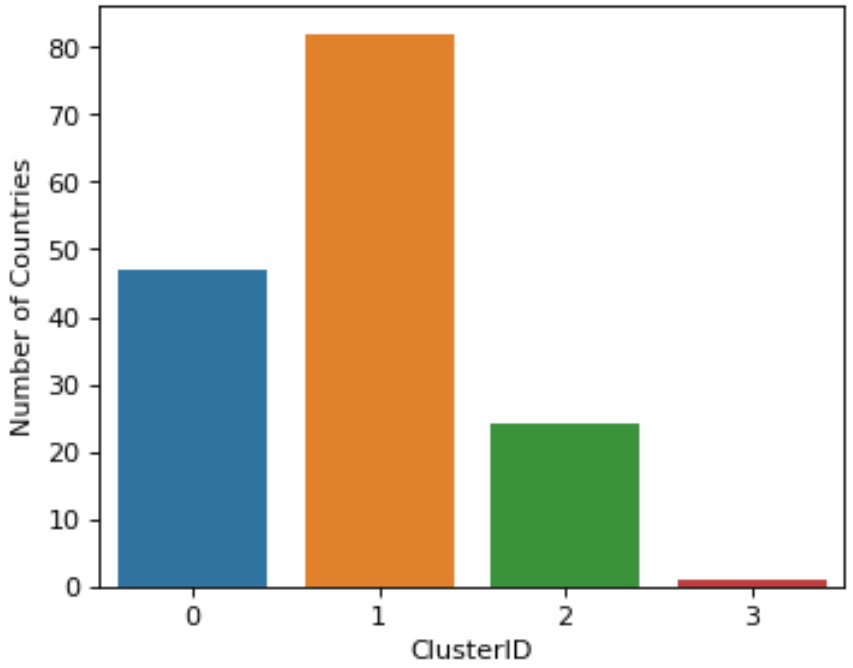
BAR GRAPH (HIERARCHICAL)

CLUSTER 0 = 47 COUNTRIES

CLUSTER 1 = 82 COUNTRIES

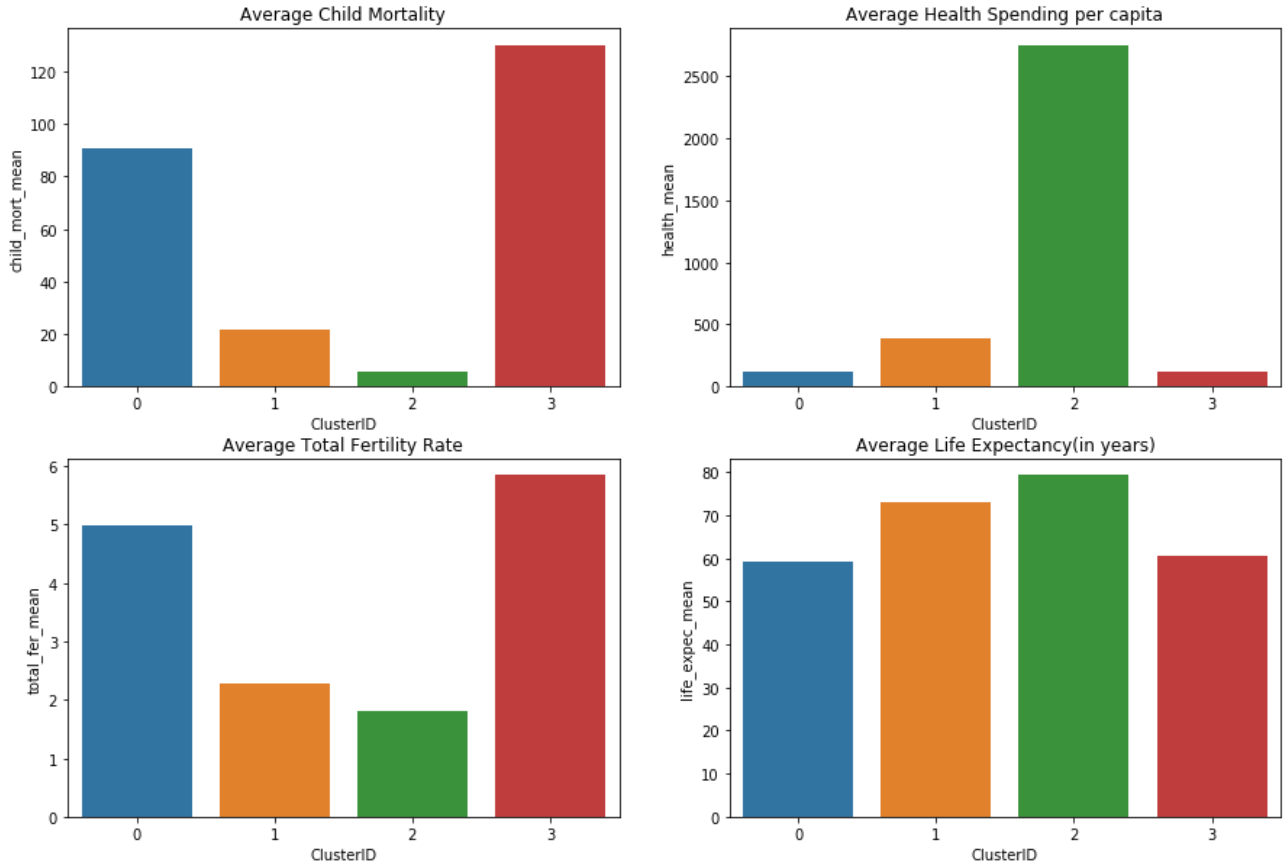
CLUSTER 2 = 24 COUNTRIES

CLUSTER 3 = 1 COUNTRY



BAR GRAPH (HIERARCHICAL)

1. In 1st plot, Average Child Mortality is higher in cluster 3 and lower in cluster 2
2. In 2nd plot, Average Health Spending is higher in cluster 2 countries and lower in cluster 0
3. In 3rd plot, Average Total Fertility Rate is Higher in cluster 3 and lower in cluster 2
4. In 4th plot, Average Life expectancy is higher in cluster 2 countries and lower in cluster 3 countries



BAR GRAPH (HIERARCHICAL)

1. In 1st plot, Average GDP per capita is higher in cluster 2 countries (developed) and lower in cluster 0 countries (Developing)
2. In 2nd plot, Average Income is higher in cluster 2 countries and lower in cluster 0 countries and needed to be looed after
3. In 3rd plot also the Average Imports per capita is lower in cluster 3 and needed to be looed after by the NGO
4. And similarly for Average Exports per capita