upGrad

#LifeKoKaroLift

Clustering: Pre-Assignment Session

Course : Data Science

Lecture On : Pre-Assignment

Instructor : Sumit Shukla

upGrad
#LifeKoKaroLift

Assignment Explanation

Clustering Assignment

upGrad

→ cluster → match Bus

→ all ch → data poi

→ 2,3

→ kmean (random

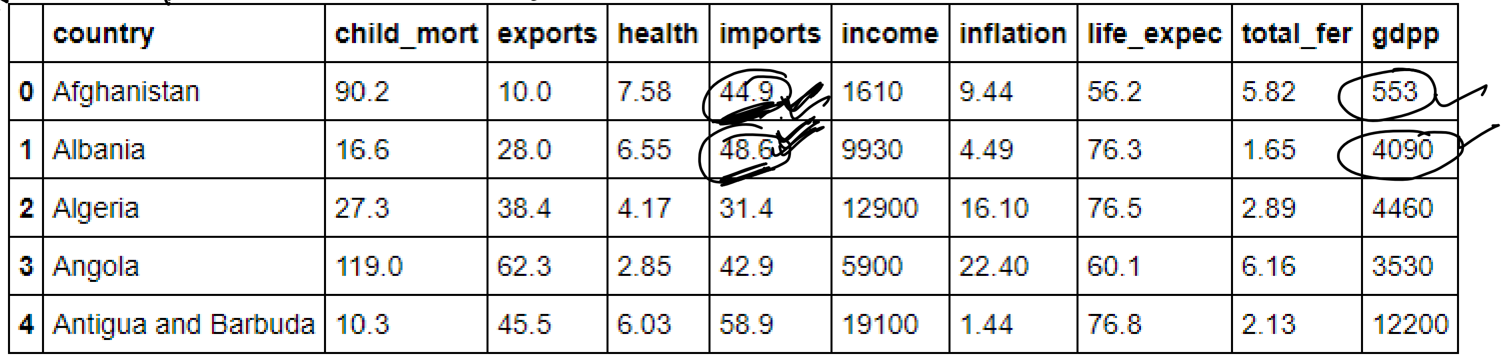
→ 1, 0

Step to procedure in the Assignment

Let's first understand the problem statement:

% of GDPP

Identify top countries that are direst need of aid. Your job is to categorise the countries using some socio-economic and health factors that determine the overall development of the country. Then you need to suggest the countries which the CEO needs to focus on the most.



	country	child_mort	exports	health	imports	income	inflation	life_expec	total_fer	gdpp
0	Afghanistan	90.2	10.0	7.58	44.9	1610	9.44	56.2	5.82	553
1	Albania	16.6	28.0	6.55	48.6	9930	4.49	76.3	1.65	4090
2	Algeria	27.3	38.4	4.17	31.4	12900	16.10	76.5	2.89	4460
3	Angola	119.0	62.3	2.85	42.9	5900	22.40	60.1	6.16	3530
4	Antigua and Barbuda	10.3	45.5	6.03	58.9	19100	1.44	76.8	2.13	12200

Clustering Assignment

GDP Income child

1

2

upGrad

Step to procedure in the Assignment

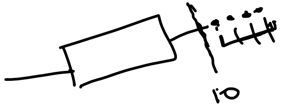
1. Data Understanding.
    a. Hint: Don't forget to read the data description properly.

1. Perform Clustering. EDA
    a. Data preparation for clustering.
        i. Outlier treatment ✓
        ii. Hopkins check ✓
    b. Clustering
        i. K-MEANS ✓
            1. Run K-Means and choose K using both Elbow and Silhouette score
            2. Run K-Means with the chosen K
            3. Visualise the clusters
            4. Clustering profiling using "gdpp, child_mort and income"

Export, Import and health > %ouge of GDPP

↓

convert them to actual values



80+ > Good Reng

60 – 80 > Avg.

Below > Bad

Clustering Assignment

upGrad

Step to procedure in the Assignment

1. Perform Clustering.
   a. Clustering ✓
      i. Hierarchical Clustering
         ✓ 1. Use both Single and Complete linkage
         ✓ 2. Choose one method based on the results
         ✓ 3. Visualise the clusters
         ✓ 4. Clustering profiling using “gdpp, child_mort and income”

using both k-mean & hierarc

1. Country Identification
   a. Based on the analysis, choose the countries that are in need for the aid.
   b. Choose the countries based on some socio-economic and health factors.

} Find out top-5 countries that are in need of the AID.

What to keep in mind

Zip
- Jupyter notebook (all code)
- PPT (PDF) → explanation to technical steps
- Part-II (PDF)
  - → Inferences → EDA
  - → Recommendation
  - → conclusion

may Add image

may use pen-paper

- You need to comment your code properly.
- You need to submit 3 files zipped as one file. A python notebook with all the code, A PPT(Converted as PDF) with all the recommendation and A PDF with part-II of the assignment.
- PPT should cover main points from your analysis.
- Choose K wisely as this reflects the final solution.
- Mention your assumptions in your notebook, If taken any.
- For any help regarding assignment, use Discussion Forum.
- For any help regarding coding error, use online portals such as StackOverflow.

upGrad

#LifeKoKaroLift

Thank You!