

Task 3. Unsupervised Learning. Clustering

Write a Python program that creates different clustering solutions for two continuous attributes in the **recs2009_public.csv** dataset. The dataset contains information on houses in the different regions of the USA.

To solve the task, you can select any set of two continuous you wish.

Get optimal number of clusters with K-means clustering by Elbow method and Silhouette charts for the selected columns.

Get some density-based clustering solutions (DBSCAN) by varying algorithm parameters,

Estimate performance of K-means & DBSCAN solutions by using any three different quality measures mentioned in the *Clustering Quality Measures.pdf* file (on my Web-page in the *Additional References:* block).

Select 300 random patterns from your dataset and get their hierarchical clustering. Print out their dendrogram and heat map.

Write a short report or presentation demonstrating selected data, Python code, plots presenting clusters obtained, Silhouette charts, clustering indices values, dendrogram, heat map and conclusion.