

DA311 Machine Learning Lab

Assignment 9

Date: October 10th, 2023

Please download the dataset from the following link:

https://github.com/tsharma12/IITG-DA311-Machine-Learning-Lab/tree/main/Week9_Dataset

Part A:

Solve the following problems related to Agglomerative Hierarchical Clustering. For clustering, do not use any in-built function. However, for plotting a Dendrogram, you can use an in-built function.

1. Using the dataset provided in “concentric_circles_data.csv”, execute Agglomerative Hierarchical Clustering with the following proximity measures:

- (a) Ward linkage
- (b) Single linkage

Visualize the clustering results in the case where you have two clusters.

2. For the dataset named “blobs_data.csv”, execute Agglomerative Hierarchical Clustering with the following proximity measures:

- (a) Ward linkage
- (b) Single linkage

Visualize the clustering results in the case where you have four clusters.

3. Utilize the datasets “close_concentric_circles_data.csv” and “far_concentric_circles_data.csv”. Generate a dendrogram for each using the standard library functions. Share your observations.

Part B:

1. On the “kmedoids_data.csv” dataset, perform clustering using the KMedoid method to identify 4 distinct clusters.