**Practical 6**

**Aim :** Clustering algorithm based on coefficient of correlation.

Code :

import pandas as pd

from sklearn.cluster import KMeans

from sklearn.preprocessing import StandardScaler

#Sample data (replace with your dataset)

data = pd.read\_csv('your\_dataset.csv')

#Standardize the data

scaler StandardScaler()

data\_scaled scaler.fit\_transform(data)

#Calculate correlation coefficients

corr\_matrix = np.corrcoef(data\_scaled.T)

#Choose features for clustering based on correlation coefficients

selected\_features = [0, 1, 2, 3, 4] # Use all features for clustering

#Perform K-means clustering

kmeans KMeans(n\_clusters=2, random\_state=0)

clusters = kmeans.fit\_predict(data\_scaled[:selected\_features])

#Print cluster assignments

print("Cluster Assignments:")

for i, cluster in enumerate(clusters):

print("Person (i+1): Cluster (cluster)")