

Ex: 14

IMPLEMENTATION OF CLUSTERING TECHNIQUES K-MEANS

Date:

Aim:- To implement a K-means clustering technique using Python Language.

SOURCE CODE:

```
import numpy as np
import pandas as pd
from matplotlib import pyplot as plt
x, y = make_blobs(n_samples=300, centers=4,
                  cluster_std=0.60, random_state=0)

plt.scatter(x[:, 0], x[:, 1])
wcss = []
for i in range(1, 11):
    kmeans = KMeans
    kmeans.fit(x)
    wcss.append(kmeans.inertia_)
plt.plot(range(1, 11), wcss)
plt.title('Elbow Method')
plt.xlabel('Number of clusters')
plt.ylabel('WCSS')
plt.show()

pred_y = kmeans.fit_predict(x)
plt.scatter(x[:, 0], x[:, 1])
plt.scatter(kmeans.cluster_centers_[:, 0],
            kmeans.cluster_centers_[:, 1], s=300, c='red')
plt.show()
```



Result :- ~~Thus~~ the program for clustering techniques - k means is successfully executed and output is verified

long reef
Gulf