Ex.NO. 14

Implementation of Clustering Techniques K-means

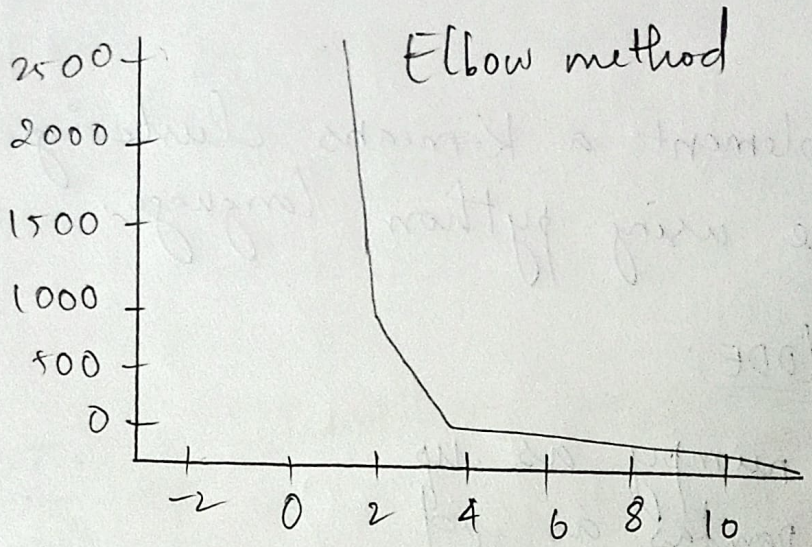
Aim:

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, centres=4,
        Cluster_std=0.60, random_state=0)
plt.scatter(X[:,0], X[:,1])
wcss=[]
for i in range(1,11):
    kmeans = Kmeans(n_clusters=i, init="k-means
+i', max_iter=300, n_initt=10, random_state=0)
    kmeans.fit(X)
plt.plot(range(1,11), wcss)
plt.title("Elbow Method")
plt.xlable("Number of clusters")
plt.ylabel("WCSS")
plt.show()
```

OUTPUT:



RESULT:

Thus the program is succesfully executed & output is verified.