EX NO : 14 .

Implementation of Clustering .

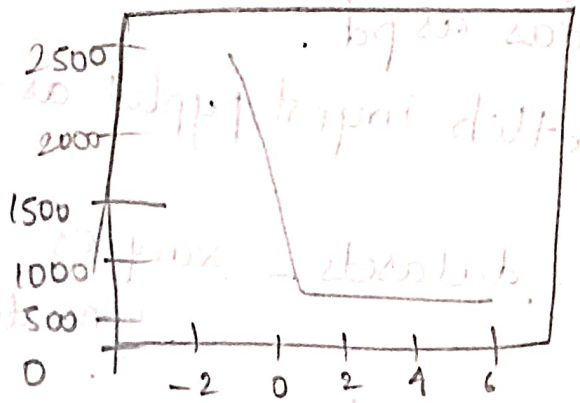
AIM To implement a k-mean clustering technique using python.

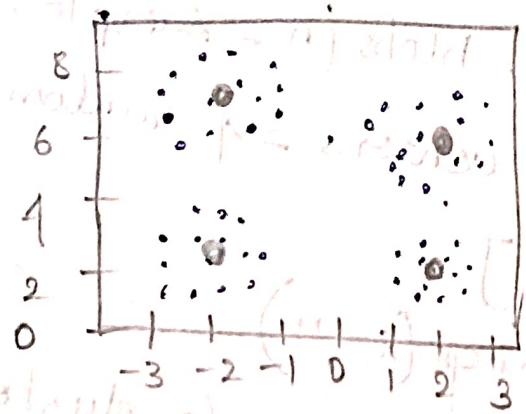
SOURCE CODE :-

```
import numpy as py.
import pandas as pd.
from matplotlib import pyplot as plt.
from sklearn.datasets _ samples _ gen
                                generator
    import make_blobs.
X, y = make_blobs (n_sample = 300,
                   centers = 4 random_state=0)
wcss = []
for i in range(1, 11)
    k means = kmeans (n_cluster = i
                      init = 'kmean).
    kmeans . fit (x).
pred_y = kmeans . fit _ predict (x)
```

```
plt - scatter ( kmeans cluster centers
                [: 0] kmeans.
    cluster - center [: , 1] = 300.
    c = 'red')
    plt . show ( )
```

OUTPUT.





Result:

Thus the program is succesfully executed and output is verified.