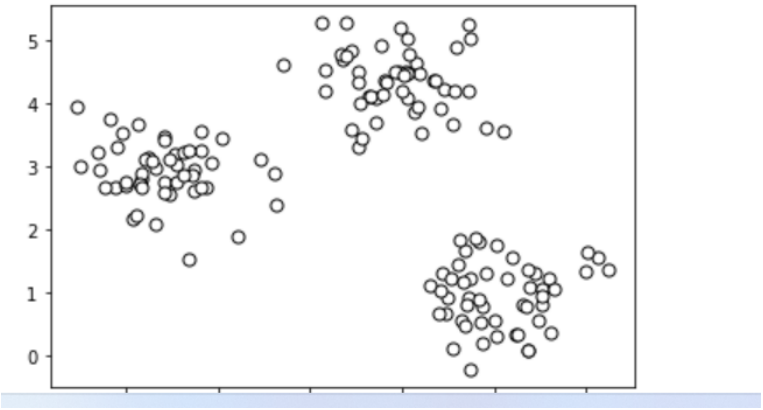
19BCE248
2CS501
Practical 10

AIM: Implement Kmeans Using sklearn

Dataset: Here the dataset is created by me. Below shown is the code for the same.

```
X, y = make_blobs(
   n_samples=150, n_features=2,
   centers=3, cluster_std=0.5,
   shuffle=True, random_state=0
)

# plot
plt.scatter(
   X[:, 0], X[:, 1],
   c='white', marker='o',
   edgecolor='black', s=50
)
plt.show()
```

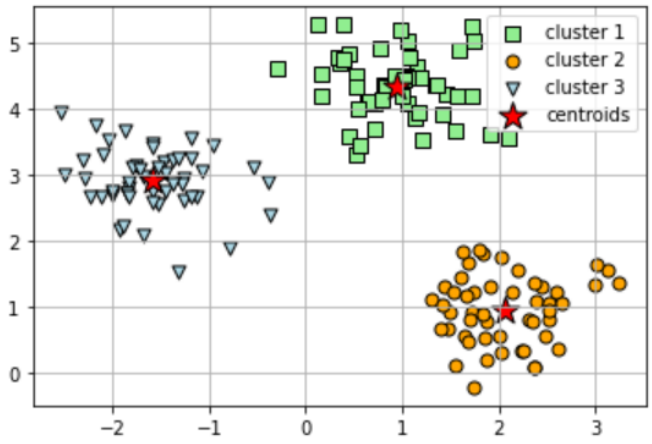


Implementation:
For the implementation purpose I have used Sklearn library for which the code is as shown below.

```
from sklearn.cluster import KMeans

km = KMeans(
    n_clusters=3, init='random',
    n_init=10, max_iter=300,
    tol=1e-04, random_state=0
)
y_km = km.fit_predict(X)
```

Final Output is as shown below:



Conclusion:

So here we learned how to use sklearn for implementing clustering algorithm in depth.