

Academic Year: 2024-2025

Semester: V

Class / Branch: TE/CSE-DS

Subject:Data Warehouse and Mining Lab

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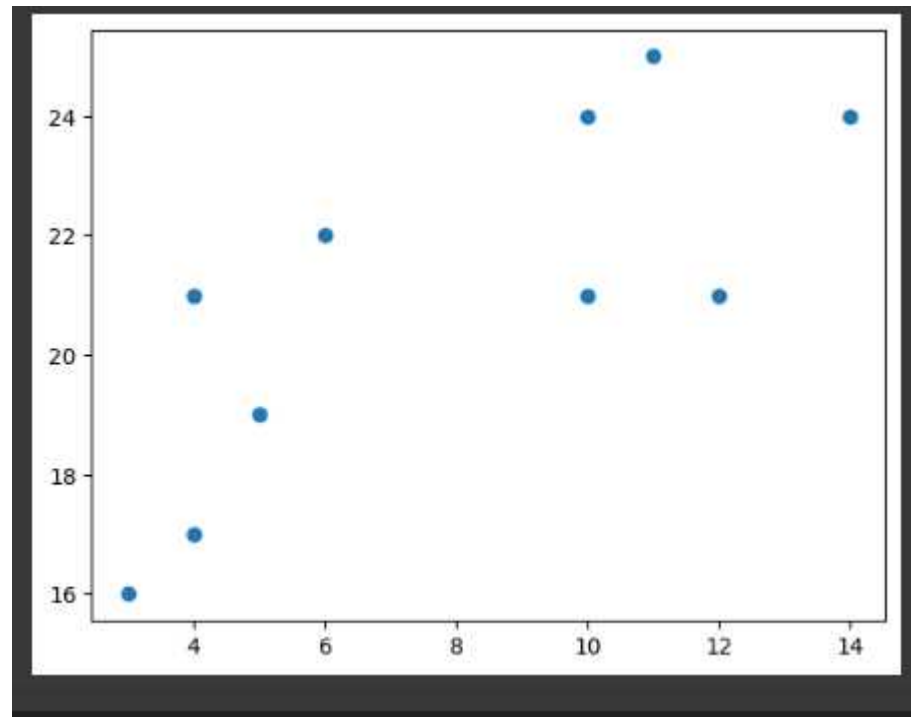
Experiment No.7

Aim:- To implement K-means clustering algorithm using python.

code:

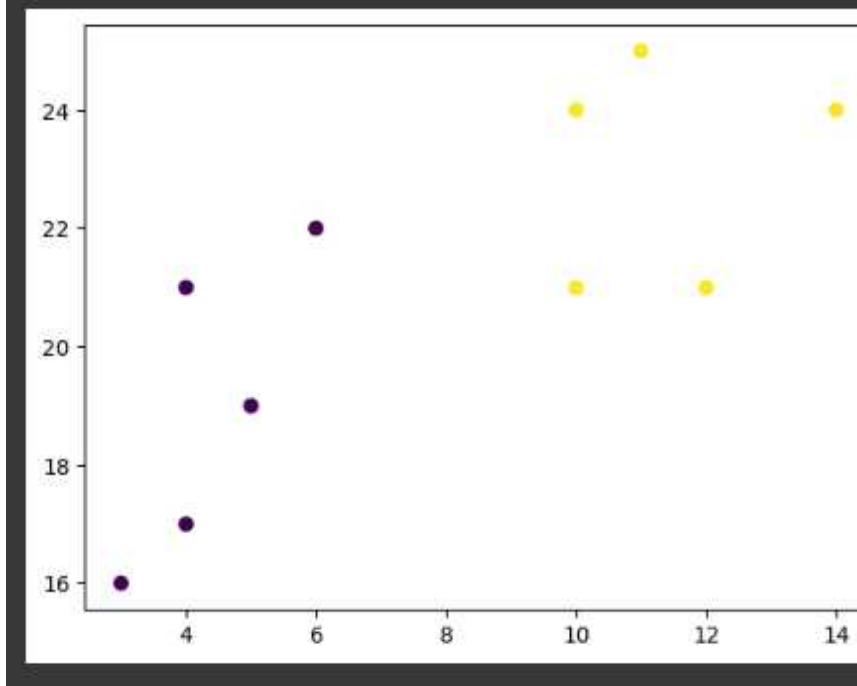
```
import matplotlib.pyplot as plt
from sklearn.cluster import KMeans
x = [4, 5, 10, 4, 3, 11, 14 , 6, 10, 12]
y = [21, 19, 24, 17, 16, 25, 24, 22, 21, 21]
plt.scatter(x, y)
plt.show()
data = list(zip(x, y))
print(data)
kmeans = KMeans(n_clusters=2)
kmeans.fit(data)
centroids = kmeans.cluster_centers_
labels = kmeans.labels_
print(centroids)
print(labels)
plt.scatter(x, y, c=kmeans.labels_)
plt.show()
```

Output:



```
[[ 4.4 19. ]  
 [11.4 23. ]  
 [0 0 1 0 0 1 1 0 1 1]]
```

```
1 plt.scatter(x, y, c=kmeans.labels_)  
2 plt.show()
```



Conclusion: Hence, we studied To implement K-means clustering algorithm using python. successfully.