

**Academic Year: 2024-2025**

**Semester: V**

**Class / Branch: TE/CSE-DS**

**Subject: Data Warehouse and Mining Lab**

**Name of Instructor: Prof.ujwala pagare**

**Name of Student: Gauri Iyer**

**Student ID: 22107030**

**Date Of Performance: 20/09/2024**

**Date Of Submission: 20/09/2024**

---

## Experiment No.08

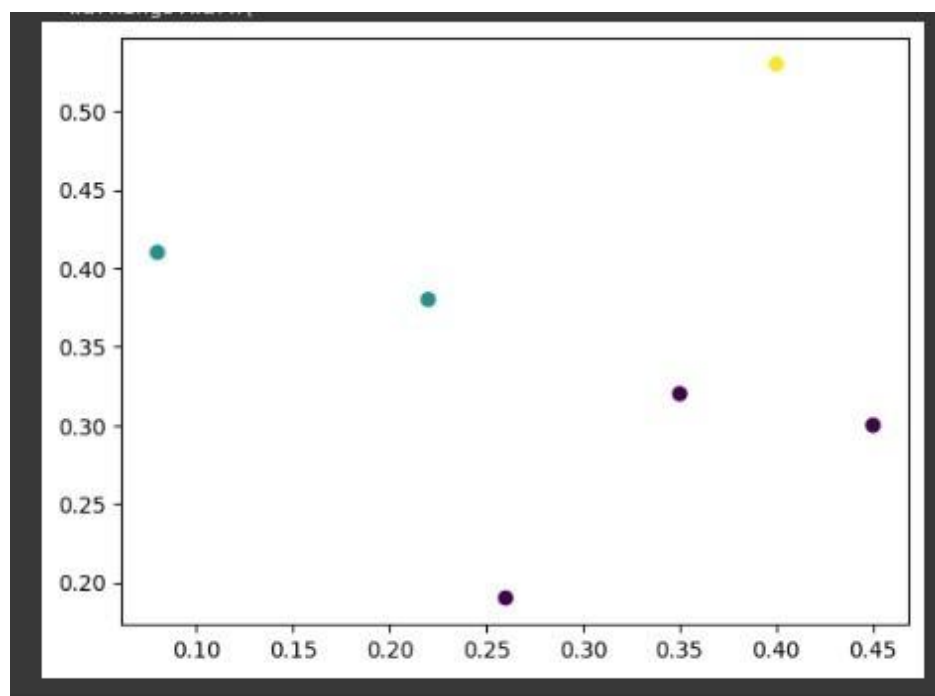
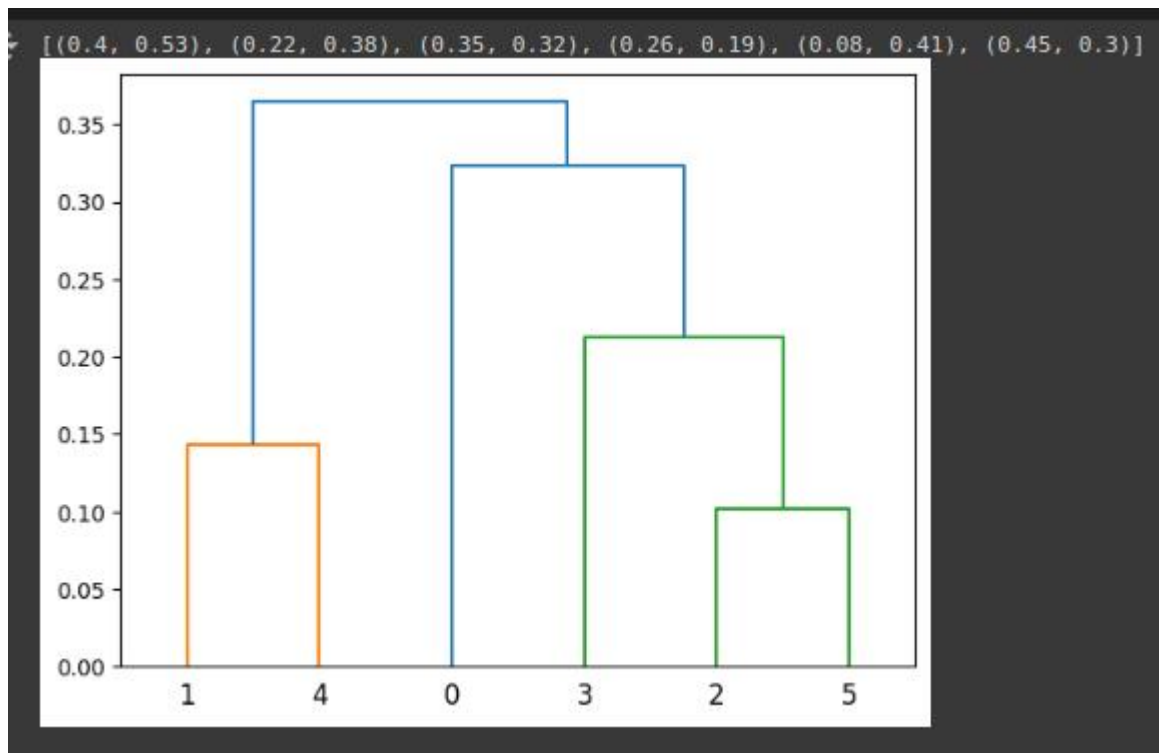
**Aim:-** Implementation of Agglomerative hierarchical clustering algorithm using python.

**Code:**

```
import numpy as np
import matplotlib.pyplot as plt
from scipy.cluster.hierarchy import dendrogram, linkage
from sklearn.cluster import AgglomerativeClustering
x = [0.40, 0.22, 0.35, 0.26, 0.08, 0.45]
y = [0.53, 0.38, 0.32, 0.19, 0.41, 0.30]
data = list(zip(x, y))
print(data)
linkage_data = linkage(data, method='ward', metric='euclidean')
dendrogram(linkage_data)
plt.show()

cluster = AgglomerativeClustering(n_clusters=3, affinity='euclidean', linkage='ward')
labels = cluster.fit_predict(data)
plt.scatter(x, y, c=labels)
plt.show()
```

Output:



**conclusion:**Hence, we studied Implementation of Agglomerative hierarchical clustering algorithm using python successfully.