**ROLL NO:- 46**

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**PRACTICAL NO:-11.1**

**PRACTICAL NAME:- IMPLEMENTING AGGLOMERATIVE CLUSTERING IN PYTHON.**

from sklearn.cluster import AgglomerativeClustering

from sklearn.datasets import make\_blobs

import matplotlib.pyplot as plt

# Generate sample data

X, y = make\_blobs(n\_samples=200, centers=4, random\_state=0)

# Create an instance of AgglomerativeClustering

clustering = AgglomerativeClustering(n\_clusters=4)

# Perform clustering

clustering.fit(X)

# Retrieve the cluster labels

labels = clustering.labels\_

# Plot the data points with their corresponding cluster labels

plt.scatter(X[:, 0], X[:, 1], c=labels, cmap='viridis')

plt.xlabel("Feature 1")

plt.ylabel("Feature 2")

plt.title("Agglomerative Clustering")

plt.show()

output:

