**Name = Nihar**

**Sap ID = 500091867**

**Roll No = R2142210525**

**Title** – Implementation of DBSCAN (DensityBased Spatial Clustering of Applicationswith Noise)

CODE:-

import pandas as pd

from sklearn.cluster import DBSCAN

from sklearn.preprocessing import StandardScaler

import matplotlib.pyplot as plt

mall\_data = pd.read\_csv('Mall\_Customers.csv')

X = mall\_data[['Annual Income (k$)', 'Spending Score (1-100)']].values

scaler = StandardScaler()

X\_scaled = scaler.fit\_transform(X)

dbscan = DBSCAN(eps=0.5, min\_samples=5)

clusters = dbscan.fit\_predict(X\_scaled)

plt.scatter(X[:, 0], X[:, 1], c=clusters)

plt.title('DBSCAN')

plt.xlabel('Annual Income (k$)')

plt.ylabel('Spending Score (1-100)')

plt.show()

OUTPUT:-

