

Untitled.txt

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from sklearn.datasets import make_blobs
from sklearn.cluster import KMeans, AgglomerativeClustering
import matplotlib.pyplot as plt

# Generate a random dataset with 100 samples and 4 clusters
X, y = make_blobs(n_samples=100, centers=4, random_state=42)

# Create a K-Means clustering object with 4 clusters
kmeans = KMeans(n_clusters=4, random_state=42)

# Fit the K-Means model to the dataset
kmeans.fit(X)

# Create a scatter plot of the data colored by K-Means cluster assignment
plt.scatter(X[:, 0], X[:, 1], c=kmeans.labels_)
plt.title("K-Means Clustering")
plt.show()

# Create a Hierarchical clustering object with 4 clusters
hierarchical = AgglomerativeClustering(n_clusters=4)

# Fit the Hierarchical model to the dataset
hierarchical.fit(X)

# Create a scatter plot of the data colored by Hierarchical cluster
assignment
plt.scatter(X[:, 0], X[:, 1], c=hierarchical.labels_)
plt.title("Hierarchical Clustering")
plt.show()
```