**Aim:**

To implement the **K-Means Clustering Algorithm** in Python to group unlabeled data into **k clusters** based on similarity, demonstrating the use of unsupervised learning techniques in artificial intelligence for pattern recognition and data segmentation..

**CODE:**

**from sklearn.cluster import KMeans**

**import numpy as np**

**import matplotlib.pyplot as plt**

**X = np.array([[1, 2], [1.5, 1.8], [5, 8],**

**[8, 8], [1, 0.6], [9, 11]])**

**kmeans = KMeans(n\_clusters=2, random\_state=0)**

**kmeans.fit(X)**

**centroids = kmeans.cluster\_centers\_**

**labels = kmeans.labels**

**colors = ["g", "r"]**

**for i in range(len(X)):**

**plt.scatter(X[i][0], X[i][1], c=colors[labels[i]])**

**plt.scatter(centroids[:, 0], centroids[:, 1], s=200, c='b', marker='X')**

**plt.title("K-Means Clustering")**

**plt.show()**

**RESULT:**

**The K-mean Classifier was successfully implemented.**