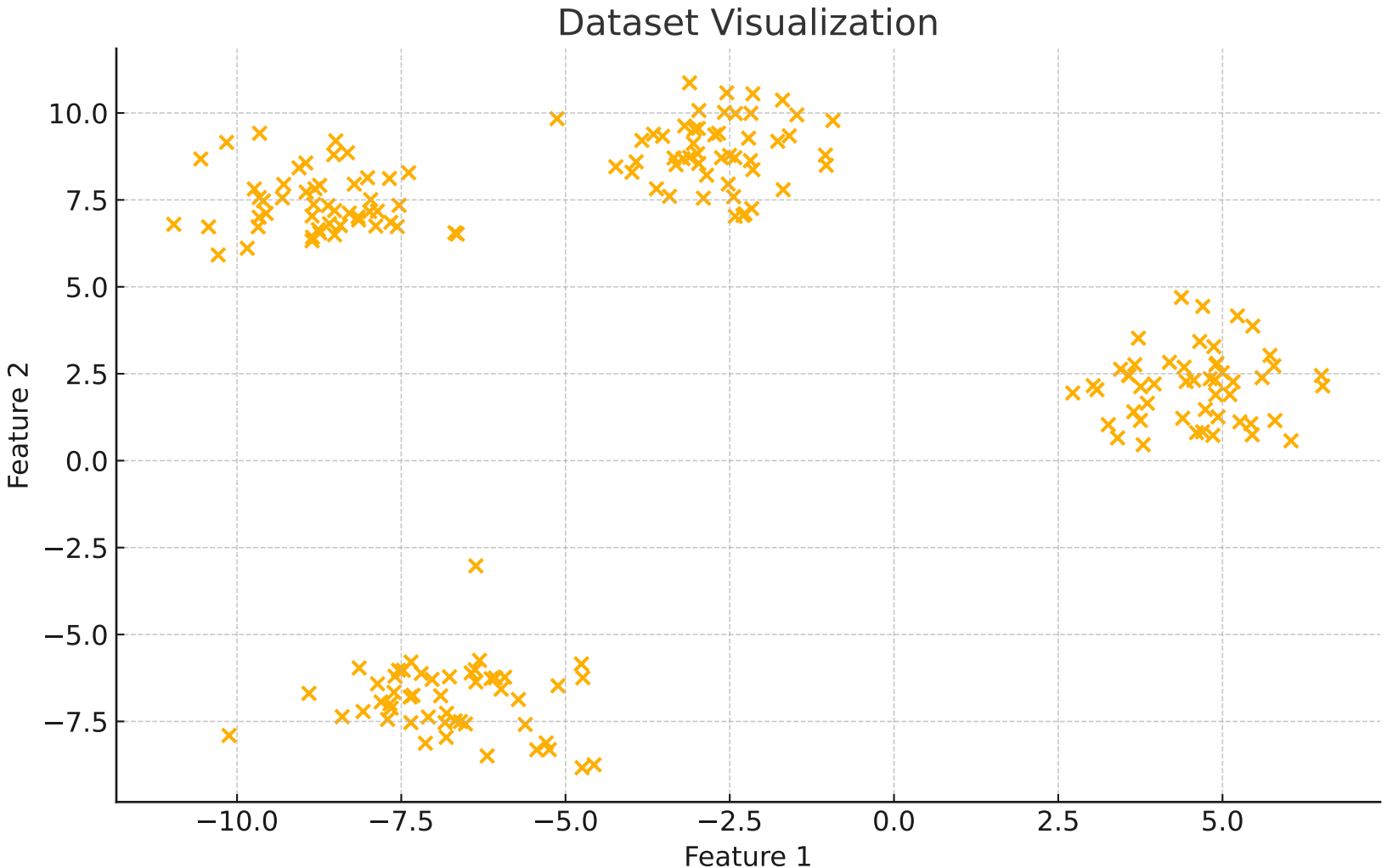
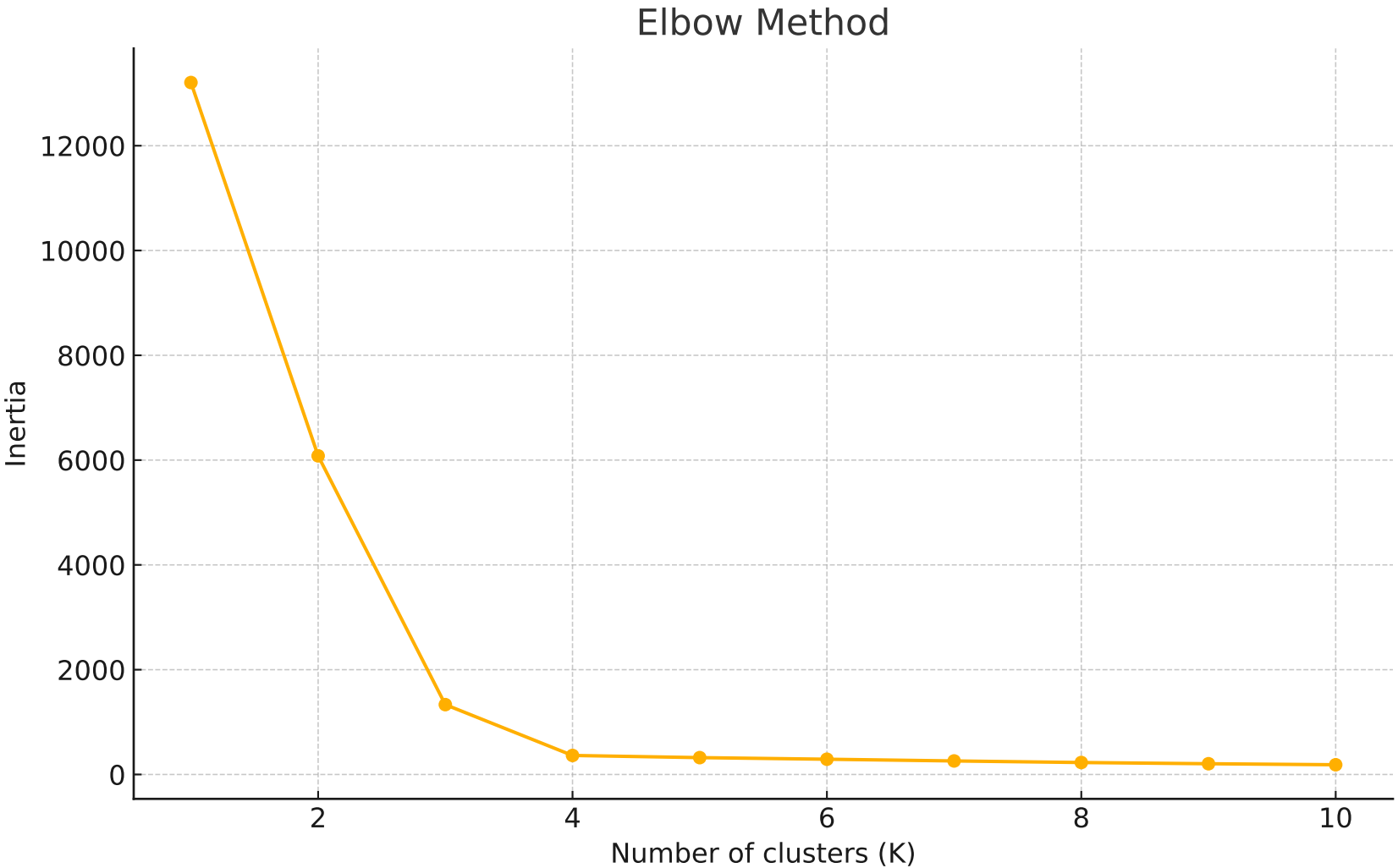
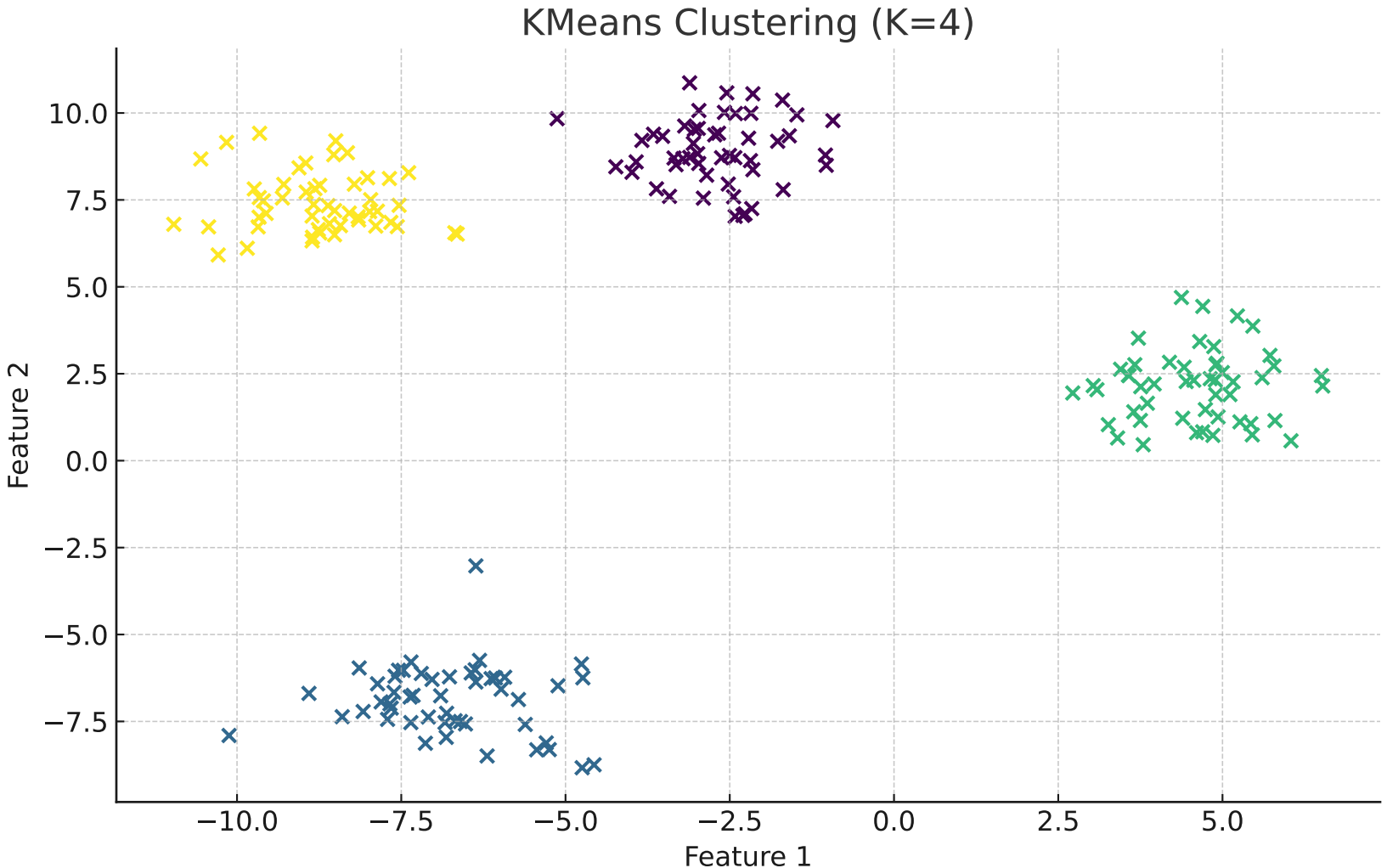

Dataset Visualization
Feature 2
Feature 1
10.0
7.5
5.0
2.5
0.0
−2.5
−5.0
−7.5
−10.0
−7.5
−5.0
−2.5
0.0
2.5
5.0


Elbow Method
Inertia
12000
10000
8000
6000
4000
2000
0
2
4
6
8
10
Number of clusters (K)


KMeans Clustering (K=4)
Feature 2
Feature 1
10.0
7.5
5.0
2.5
0.0
−2.5
−5.0
−7.5
−10.0
−7.5
−5.0
−2.5
0.0
2.5
5.0

Silhouette Score: 0.795

K-Means Clustering Interview Questions and Answers

1. How does K-Means clustering work?

   K-Means partitions data into K clusters by iteratively assigning points to the nearest centroid and upd

2. What is the Elbow method?

   The Elbow method evaluates the sum of squared distances (inertia) for different K and selects the K a

3. What are the limitations of K-Means?

   Assumes spherical clusters, sensitive to outliers, requires pre-specifying K, and may converge to loca

4. How does initialization affect results?

   Poor initialization can lead to suboptimal clustering and slower convergence. Methods like K-Means+

5. What is inertia in K-Means?

   Inertia is the sum of squared distances of samples to their closest cluster centroid, measuring clusteri

6. What is Silhouette Score?

   The Silhouette Score measures how similar a point is to its own cluster compared to other clusters, ra

7. How do you choose the right number of clusters?

   Combine methods like Elbow, Silhouette analysis, domain knowledge, and stability testing to determi

8. What’s the difference between clustering and classification?

   Clustering is unsupervised grouping of similar data without labels; classification is supervised, learnin