Dev parekh (TY9-42) , experiment number 1 - DWM

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```python
# Import necessary libraries
import numpy as np
import matplotlib.pyplot as plt
from sklearn.cluster import KMeans
from sklearn.datasets import make_blobs

# Step 1: Create or load a dataset (using make_blobs for illustration)
# Generating synthetic data with 4 clusters
X, y = make_blobs(n_samples=300, centers=4, random_state=42)

# Step 2: Apply K-means clustering
kmeans = KMeans(n_clusters=4, random_state=42)
kmeans.fit(X)

# Step 3: Get cluster centers and labels
cluster_centers = kmeans.cluster_centers_
labels = kmeans.labels_

# Step 4: Visualize the clusters
plt.figure(figsize=(8, 6))

# Plot data points with different colors for each cluster
plt.scatter(X[:, 0], X[:, 1], c=labels, cmap='viridis', s=50)

# Plot the cluster centers
plt.scatter(cluster_centers[:, 0], cluster_centers[:, 1], c='red', s=500, marker='X', label='Cluster Centers')

plt.title('K-means Clustering')
plt.xlabel('Feature 1')
plt.ylabel('Feature 2')
plt.legend()
plt.show()
```