import pickle

from sklearn.cluster import KMeans

from sklearn.datasets import make\_blobs

import matplotlib.pyplot as plt

# --- Replace below with your dataset ---

X, \_ = make\_blobs(n\_samples=1000, n\_features=2, centers=3, random\_state=42) # Dummy dataset for clustering

# ----------------------------------------

model = KMeans(n\_clusters=3, random\_state=42) # You can change n\_clusters based on your dataset

model.fit(X)

# Predict clusters

y\_pred = model.predict(X)

# Plotting the clusters (optional)

plt.scatter(X[:, 0], X[:, 1], c=y\_pred, cmap='viridis')

plt.title('K-Means Clustering')

plt.xlabel('Feature 1')

plt.ylabel('Feature 2')

plt.show()

# Save the model as a pickle file

with open('kmeans\_model.pkl', 'wb') as f:

pickle.dump(model, f)

print("KMeans model saved as kmeans\_model.pkl")