import pandas as pd

from sklearn.preprocessing import StandardScaler, LabelEncoder

from sklearn.cluster import KMeans

import matplotlib.pyplot as plt

df = pd.read\_csv('user\_data.csv')

le = LabelEncoder()

df['Gender\_enc'] = le.fit\_transform(df['Gender'])

features = df[['Age', 'Salary', 'Gender\_enc']]

scaler = StandardScaler()

scaled\_features = scaler.fit\_transform(features)

k = 2

kmeans = KMeans(n\_clusters=k, random\_state=42, n\_init=10)

df['Cluster'] = kmeans.fit\_predict(scaled\_features)

print(df)

colors = ['red', 'blue', 'green', 'purple']

plt.figure(figsize=(8, 6))

for i in range(k):

cluster\_data = df[df['Cluster'] == i]

plt.scatter(cluster\_data['Age'], cluster\_data['Salary'],

s=100, c=colors[i], label=f'Cluster {i+1}')

plt.title('User Clusters by Age and Salary')

plt.xlabel('Age')

plt.ylabel('Salary')

plt.legend()

plt.grid(True)

plt.show()