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from sklearn.tree import DecisionTreeClassifier
from sklearn.metrics import accuracy_score
from sklearn.model_selection import train_test_split
import pandas as pd
data = pd.read_csv('/content/wine.csv')
X = data.drop('Wine', axis=1)
y = data['Wine']

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X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=0.2, random_state=42)

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dt_entropy = DecisionTreeClassifier(criterion='entropy', max_depth=2, random_state=42)

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dt_entropy.fit(X_train, y_train)

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# Predict on the test data
y_pred = dt_entropy.predict(X_test)

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# Calculate accuracy
accuracy = accuracy_score(y_test, y_pred)
print(f"Accuracy: {accuracy}")

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➡ Accuracy: 0.9166666666666666

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import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns
df = pd.read_csv('/content/wine.csv')
print(df.head())
sns.countplot(df['Wine'])
plt.title('Value counts of wine')
plt.show()

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	Wine	Alcohol	Malic.acid	Ash	Ac1	Mg	Phenols	Flavanoids	\
0	1	14.23	1.71	2.43	15.6	127	2.80	3.06	
1	1	13.20	1.78	2.14	11.2	100	2.65	2.76	
2	1	13.16	2.36	2.67	18.6	101	2.80	3.24	
3	1	14.37	1.95	2.50	16.8	113	3.85	3.49	
4	1	13.24	2.59	2.87	21.0	118	2.80	2.69	

	Nonflavanoid.phenols	Proanth	Color.int	Hue	OD	Proline
0	0.28	2.29	5.64	1.04	3.92	1065
1	0.26	1.28	4.38	1.05	3.40	1050
2	0.30	2.81	5.68	1.03	3.17	1185
3	0.24	2.18	7.80	0.86	3.45	1480
4	0.39	1.82	4.32	1.04	2.93	735

Value counts of wine

