

	survived	pclass	sex	age	sibsp	parch	tare	embarked	class	who	adult_male	deck	embark_town	alive	alone
0	0	3	male	22.0	1	0	7.2500	S	Third	man	True	NaN	Southampton	no	False
1	1	1	female	38.0	1	0	71.2833	C	First	woman	False	C	Cherbourg	yes	False
2	1	3	female	26.0	0	0	7.9250	S	Third	woman	False	NaN	Southampton	yes	True
3	1	1	female	35.0	1	0	53.1000	S	First	woman	False	C	Southampton	yes	False
4	0	3	male	35.0	0	0	8.0500	S	Third	man	True	NaN	Southampton	no	True

Accuracy: 0.7832

Classification Report:				
	precision	recall	f1-score	support
0	0.76	0.89	0.82	80
1	0.82	0.65	0.73	63
accuracy			0.78	143
macro avg	0.79	0.77	0.77	143
weighted avg	0.79	0.78	0.78	143

```
survived pclass      sex   age  sibsp  parch      fare embarked class    who  adult_male deck  embark_town alive alone
0         0        3 male  22.0      1      0    7.2500      S  Third man     True  NaN  Southampton no False
1         1        1 female 38.0      1      0   71.2833      C  First woman  False  C   Cherbourg yes False
2         1        3 female 26.0      0      0    7.9250      S  Third woman  False  NaN  Southampton yes  True
3         1        1 female 35.0      1      0   53.1000      S  First woman  False  C   Southampton yes False
4         0        3 male  35.0      0      0    8.0500      S  Third man     True  NaN  Southampton no  True
```

Accuracy: 0.7063

#### Classification Report:

	precision	recall	f1-score	support
0	0.72	0.79	0.75	80
1	0.69	0.60	0.64	63
accuracy			0.71	143
macro avg	0.70	0.70	0.70	143
weighted avg	0.70	0.71	0.70	143

```
survived  pclass      sex    age  sibsp  parch      fare embarked  class     who  adult_male   deck  embark_town  alive  alone
0         0        3  male  22.0      1      0    7.2500      S  Third    man      True  NaN  Southampton  no  False
1         1        1  female  38.0      1      0   71.2833      C  First   woman     False  C  Cherbourg  yes  False
2         1        3  female  26.0      0      0    7.9250      S  Third   woman     False  NaN  Southampton  yes  True
3         1        1  female  35.0      1      0   53.1000      S  First   woman     False  C  Southampton  yes  False
4         0        3  male  35.0      0      0    8.0500      S  Third    man      True  NaN  Southampton  no  True
Accuracy: 0.8252
```

#### Classification Report:

	precision	recall	f1-score	support
0	0.80	0.91	0.85	80
1	0.87	0.71	0.78	63
accuracy			0.83	143
macro avg	0.83	0.81	0.82	143
weighted avg	0.83	0.83	0.82	143

```
1 import pandas as pd
2 from sklearn.model_selection import train_test_split
3 from sklearn.preprocessing import StandardScaler, LabelEncoder
4 from sklearn.neighbors import KNeighborsClassifier
5 from sklearn.metrics import classification_report, accuracy_score
6 import seaborn as sns
7 titanic = sns.load_dataset('titanic')
8 print(titanic.head())
9 data = titanic[['pclass', 'sex', 'age', 'sibsp', 'parch', 'fare', 'embarked', 'survived']].dropna()
10 data['sex'] = LabelEncoder().fit_transform(data['sex'])
11 data['embarked'] = LabelEncoder().fit_transform(data['embarked'])
12 X = data.drop('survived', axis=1)
13 y = data['survived']
14 X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=0.2, random_state=42)
15 scaler = StandardScaler()
16 X_train_scaled = scaler.fit_transform(X_train)
17 X_test_scaled = scaler.transform(X_test)
18 knn_clf = KNeighborsClassifier(n_neighbors=5)
19 knn_clf.fit(X_train_scaled, y_train)
20 y_pred = knn_clf.predict(X_test_scaled)
21 print(f"Accuracy: {accuracy_score(y_test, y_pred):.4f}")
22 print("\nClassification Report:\n", classification_report(y_test, y_pred))
23
```

```
1 import pandas as pd
2 from sklearn.model_selection import train_test_split
3 from sklearn.preprocessing import StandardScaler, LabelEncoder
4 from sklearn.tree import DecisionTreeClassifier
5 from sklearn.metrics import classification_report, accuracy_score
6 import seaborn as sns
7 titanic = sns.load_dataset('titanic')
8 print(titanic.head())
9 data = titanic[['pclass', 'sex', 'age', 'sibsp', 'parch', 'fare', 'embarked', 'survived']].dropna()
10 data['sex'] = LabelEncoder().fit_transform(data['sex'])
11 data['embarked'] = LabelEncoder().fit_transform(data['embarked'])
12 X = data.drop('survived', axis=1)
13 y = data['survived']
14 X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=0.2, random_state=42)
15 scaler = StandardScaler()
16 X_train_scaled = scaler.fit_transform(X_train)
17 X_test_scaled = scaler.transform(X_test)
18 dt_clf = DecisionTreeClassifier(random_state=42)
19 dt_clf.fit(X_train_scaled, y_train)
20 y_pred = dt_clf.predict(X_test_scaled)
21 print(f"Accuracy: {accuracy_score(y_test, y_pred):.4f}")
22 print("\nClassification Report:\n", classification_report(y_test, y_pred))
23
```