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import pandas as pd
import seaborn as sns
import matplotlib.pyplot as plt
from sklearn.model_selection import train_test_split
from sklearn.ensemble import RandomForestClassifier
from sklearn.metrics import accuracy_score, classification_report
df = pd.read_csv("Titanic-Dataset.csv")
df['Sex'] = df['Sex'].map({'male': 0, 'female': 1})
df['Age'].fillna(df['Age'].mean(), inplace=True)
df['Embarked'].fillna('S', inplace=True)
df['Embarked'] = df['Embarked'].map({'S': 0, 'C': 1, 'Q': 2})
df.drop(['Name', 'Ticket', 'Cabin'], axis=1, inplace=True)
X = df.drop('Survived', axis=1)
y = df['Survived']
X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=0.2, random_state=42)
model = RandomForestClassifier()
model.fit(X_train, y_train)
y_pred = model.predict(X_test)
print("Accuracy:", accuracy_score(y_test, y_pred))
print(classification_report(y_test, y_pred))

```



<ipython-input-1-ebf3dc0bf064>:9: FutureWarning: A value is trying to be set on a copy of a DataFrame or Series consisting of rows and columns. Please use inplace=True to modify the DataFrame in place.
The behavior will change in pandas 3.0. This inplace method will never work because the

For example, when doing 'df[col].method(value, inplace=True)', try using 'df.method({col

```
df['Age'].fillna(df['Age'].mean(), inplace=True)
```

<ipython-input-1-ebf3dc0bf064>:10: FutureWarning: A value is trying to be set on a copy of a DataFrame or Series consisting of rows and columns. Please use inplace=True to modify the DataFrame in place.
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For example, when doing 'df[col].method(value, inplace=True)', try using 'df.method({col

```
df['Embarked'].fillna('S', inplace=True)
```

Accuracy: 0.8268156424581006

	precision	recall	f1-score	support
0	0.84	0.88	0.86	105
1	0.81	0.76	0.78	74
accuracy			0.83	179
macro avg	0.82	0.82	0.82	179
weighted avg	0.83	0.83	0.83	179



