

```
In [1]: import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns
```

```
In [2]: df = pd.read_csv(r'C:\Users\hp\Desktop\CodSoft\titanic.csv')
df.head(10)
```

```
Out[2]:
```

	PassengerId	Survived	Pclass	Name	Sex	Age	SibSp	Parch	Ticket	Fare	Cabin	Emb
0	892	0	3	Kelly, Mr. James	male	34.5	0	0	330911	7.8292	NaN	
1	893	1	3	Wilkes, Mrs. James (Ellen Needs)	female	47.0	1	0	363272	7.0000	NaN	
2	894	0	2	Myles, Mr. Thomas Francis	male	62.0	0	0	240276	9.6875	NaN	
3	895	0	3	Wirz, Mr. Albert	male	27.0	0	0	315154	8.6625	NaN	
4	896	1	3	Hirvonen, Mrs. Alexander (Helga E Lindqvist)	female	22.0	1	1	3101298	12.2875	NaN	
5	897	0	3	Svensson, Mr. Johan Cervin	male	14.0	0	0	7538	9.2250	NaN	
6	898	1	3	Connolly, Miss. Kate	female	30.0	0	0	330972	7.6292	NaN	
7	899	0	2	Caldwell, Mr. Albert Francis	male	26.0	1	1	248738	29.0000	NaN	
8	900	1	3	Abraham, Mrs. Joseph (Sophie Halaut Easu)	female	18.0	0	0	2657	7.2292	NaN	
9	901	0	3	Davies, Mr. John Samuel	male	21.0	2	0	A/4 48871	24.1500	NaN	

```
In [3]: df.shape
```

Out[3]: (418, 12)

In [4]: `df.describe()`

Out[4]:

	PassengerId	Survived	Pclass	Age	SibSp	Parch	Fare
count	418.000000	418.000000	418.000000	332.000000	418.000000	418.000000	417.000000
mean	1100.500000	0.363636	2.265550	30.272590	0.447368	0.392344	35.627188
std	120.810458	0.481622	0.841838	14.181209	0.896760	0.981429	55.907576
min	892.000000	0.000000	1.000000	0.170000	0.000000	0.000000	0.000000
25%	996.250000	0.000000	1.000000	21.000000	0.000000	0.000000	7.895800
50%	1100.500000	0.000000	3.000000	27.000000	0.000000	0.000000	14.454200
75%	1204.750000	1.000000	3.000000	39.000000	1.000000	0.000000	31.500000
max	1309.000000	1.000000	3.000000	76.000000	8.000000	9.000000	512.329200

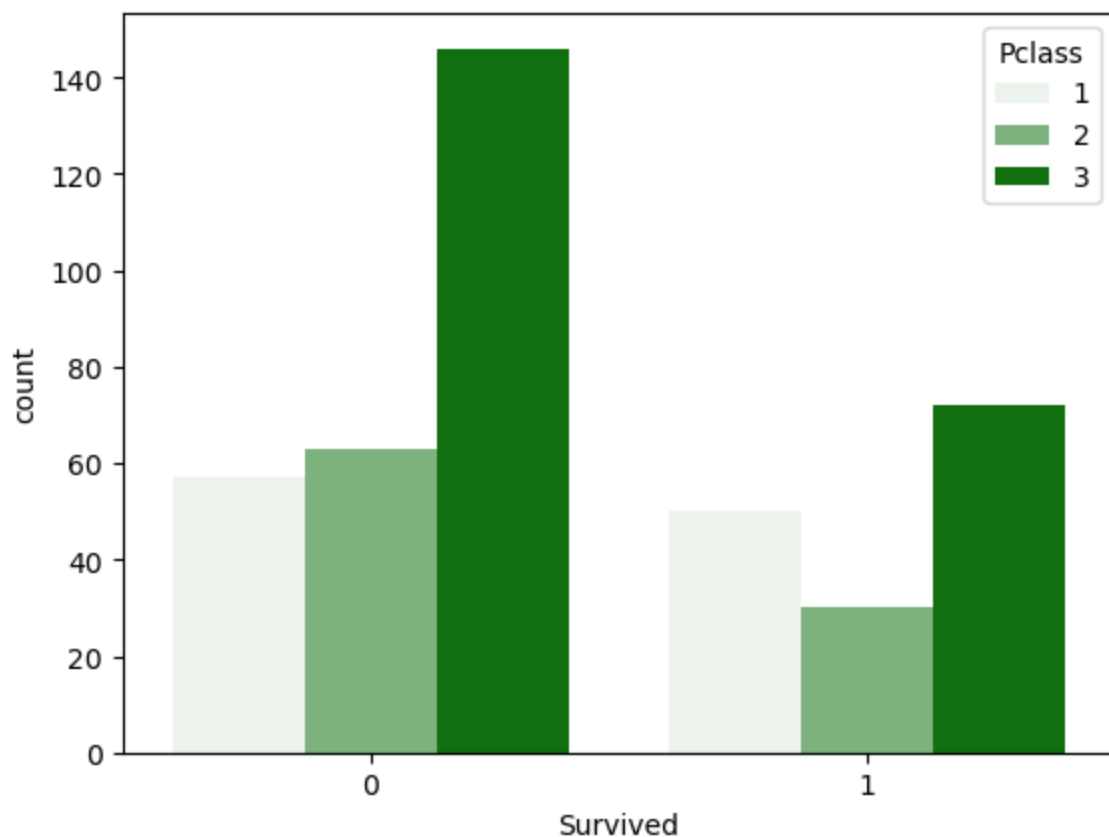
In [5]: `df['Survived'].value_counts()`

Out[5]:

```
Survived
0      266
1      152
Name: count, dtype: int64
```

In [6]: `sns.countplot(x=df['Survived'], hue=df['Pclass'], data=df, color="green")`

Out[6]: <Axes: xlabel='Survived', ylabel='count'>

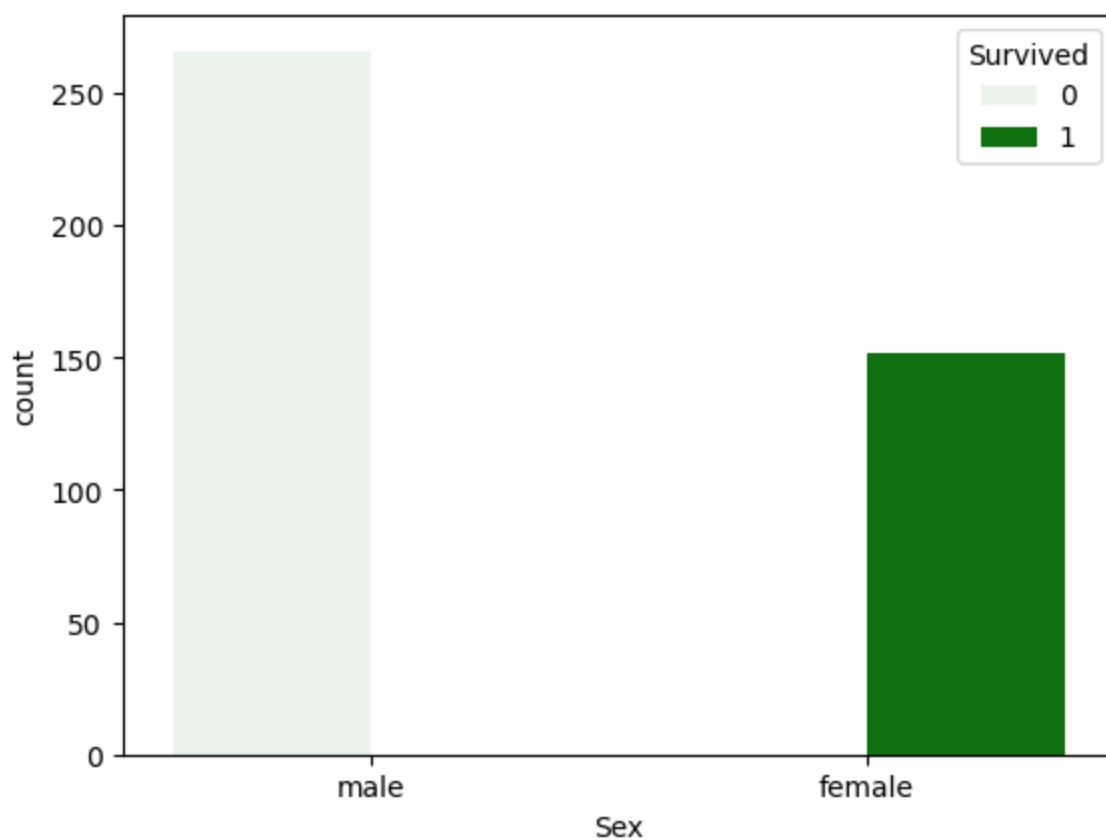


```
In [7]: df["Sex"]
```

```
Out[7]: 0      male
1      female
2      male
3      male
4      female
...
413    male
414    female
415    male
416    male
417    male
Name: Sex, Length: 418, dtype: object
```

```
In [8]: sns.countplot(x=df['Sex'], hue=df['Survived'], data=df, color="green")
```

```
Out[8]: <Axes: xlabel='Sex', ylabel='count'>
```



```
In [9]: df.groupby('Sex')[['Survived']].mean()
```

```
Out[9]:
```

	Survived
Sex	
female	1.0
male	0.0

```
In [10]: df["Sex"].unique()
```

Out[10]: array(['male', 'female'], dtype=object)

```
In [11]: from sklearn.preprocessing import LabelEncoder
labelencoder = LabelEncoder()

df['Sex'] = labelencoder.fit_transform(df['Sex'])

df.head()
```

Out[11]:

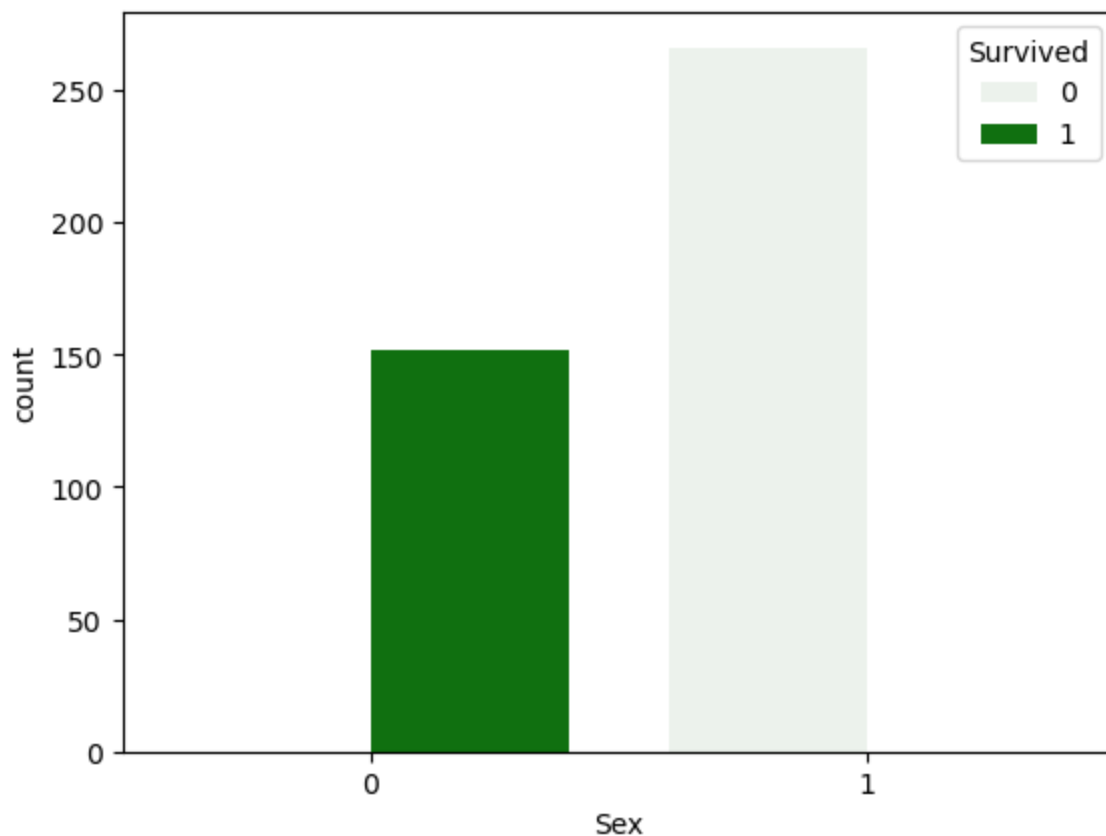
	PassengerId	Survived	Pclass	Name	Sex	Age	SibSp	Parch	Ticket	Fare	Cabin	Embar
0	892	0	3	Kelly, Mr. James	1	34.5	0	0	330911	7.8292	NaN	
1	893	1	3	Wilkes, Mrs. James (Ellen Needs)	0	47.0	1	0	363272	7.0000	NaN	
2	894	0	2	Myles, Mr. Thomas Francis	1	62.0	0	0	240276	9.6875	NaN	
3	895	0	3	Wirz, Mr. Albert	1	27.0	0	0	315154	8.6625	NaN	
4	896	1	3	Hirvonen, Mrs. Alexander (Helga E Lindqvist)	0	22.0	1	1	3101298	12.2875	NaN	

In [12]: df['Sex'], df['Survived']

```
Out[12]: (0      1
          1      0
          2      1
          3      1
          4      0
          ..
         413     1
         414     0
         415     1
         416     1
         417     1
         Name: Sex, Length: 418, dtype: int32,
          0      0
          1      1
          2      0
          3      0
          4      1
          ..
         413     0
         414     1
         415     0
         416     0
         417     0
         Name: Survived, Length: 418, dtype: int64)
```

```
In [13]: sns.countplot(x=df['Sex'], hue=df["Survived"], data=df, color="green")
```

```
Out[13]: <Axes: xlabel='Sex', ylabel='count'>
```



```
In [14]: df.isna().sum()
```

```
Out[14]: PassengerId      0
         Survived      0
         Pclass       0
         Name         0
         Sex          0
         Age         86
         SibSp        0
         Parch        0
         Ticket       0
         Fare         1
         Cabin       327
         Embarked     0
         dtype: int64
```

```
In [15]: df=df.drop(['Age'], axis=1)
```

```
In [16]: df_final = df
         df_final.head(10)
```

Out[16]:

	PassengerId	Survived	Pclass	Name	Sex	SibSp	Parch	Ticket	Fare	Cabin	Embarked
0	892	0	3	Kelly, Mr. James	1	0	0	330911	7.8292	NaN	Q
1	893	1	3	Wilkes, Mrs. James (Ellen Needs)	0	1	0	363272	7.0000	NaN	S
2	894	0	2	Myles, Mr. Thomas Francis	1	0	0	240276	9.6875	NaN	Q
3	895	0	3	Wirz, Mr. Albert	1	0	0	315154	8.6625	NaN	S
4	896	1	3	Hirvonen, Mrs. Alexander (Helga E Lindqvist)	0	1	1	3101298	12.2875	NaN	S
5	897	0	3	Svensson, Mr. Johan Cervin	1	0	0	7538	9.2250	NaN	S
6	898	1	3	Connolly, Miss. Kate	0	0	0	330972	7.6292	NaN	Q
7	899	0	2	Caldwell, Mr. Albert Francis	1	1	1	248738	29.0000	NaN	S
8	900	1	3	Abraham, Mrs. Joseph (Sophie Halaut Easu)	0	0	0	2657	7.2292	NaN	C
9	901	0	3	Davies, Mr. John Samuel	1	2	0	A/4 48871	24.1500	NaN	S

```
In [17]: X= df[['Pclass', 'Sex']]
         Y=df['Survived']
```

```
In [18]: from sklearn.model_selection import train_test_split
         X_train, X_test, Y_train, Y_test = train_test_split(X, Y, test_size = 0.2, random_state=42)
```

```
In [19]: from sklearn.linear_model import LogisticRegression

         log = LogisticRegression(random_state = 0)
         log.fit(X_train, Y_train)
```

Out[19]:

▼ LogisticRegression

LogisticRegression(random_state=0)

In [20]:

```
pred = print(log.predict(X_test))
```

```
[0 0 1 0 1 0 1 0 0 0 1 1 0 0 0 0 1 0 1 1 0 1 0 0 0 0 1 0 0 0 1 1 1 1 1 0 0
 1 1 1 1 0 1 1 0 1 0 0 0 0 0 1 1 0 0 1 0 1 0 0 0 1 1 0 0 1 1 1 1 0 0 1 1 1
 1 0 0 1 0 1 0 1 0 0]
```

In [21]:

```
print(Y_test)
```

```
360    0
170    0
224    1
358    0
309    1
..
100    1
7      0
22     1
68     0
328    0
Name: Survived, Length: 84, dtype: int64
```

In [22]:

```
import warnings
warnings.filterwarnings("ignore")

res= log.predict([[2,0]])

if(res==0):
    print("Not Survived, better luck next time")
else:
    print("Survived, hope u live well after this")
```

```
Survived, hope u live well after this
```