```
import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns

df = pd.read_csv("tested.csv")

df.head()

   PassengerId  Survived  Pclass  \
0          892         0       3   
1          893         1       3   
2          894         0       2   
3          895         0       3   
4          896         1       3   

                                           Name     Sex   Age  SibSp  
Parch  \
0                              Kelly, Mr. James    male  34.5      0   
0   
1              Wilkes, Mrs. James (Ellen Needs)  female  47.0      1   
0   
2                     Myles, Mr. Thomas Francis    male  62.0      0   
0   
3                              Wirz, Mr. Albert    male  27.0      0   
0   
4  Hirvonen, Mrs. Alexander (Helga E Lindqvist)  female  22.0      1   
1   

    Ticket     Fare Cabin Embarked  
0   330911   7.8292   NaN        Q  
1   363272   7.0000   NaN        S  
2   240276   9.6875   NaN        Q  
3   315154   8.6625   NaN        S  
4  3101298  12.2875   NaN        S  

df.head(10)

   PassengerId  Survived  Pclass  \
0          892         0       3   
1          893         1       3   
2          894         0       2   
3          895         0       3   
4          896         1       3   
5          897         0       3   
6          898         1       3   
7          899         0       2   
8          900         1       3   
9          901         0       3   

                                           Name     Sex   Age  SibSp  
```

```
Parch  \
0                              Kelly, Mr. James    male  34.5      0
0
1              Wilkes, Mrs. James (Ellen Needs)  female  47.0      1
0
2                     Myles, Mr. Thomas Francis    male  62.0      0
0
3                              Wirz, Mr. Albert    male  27.0      0
0
4  Hirvonen, Mrs. Alexander (Helga E Lindqvist)  female  22.0      1
1
5                    Svensson, Mr. Johan Cervin    male  14.0      0
0
6                          Connolly, Miss. Kate  female  30.0      0
0
7                  Caldwell, Mr. Albert Francis    male  26.0      1
1
8     Abrahim, Mrs. Joseph (Sophie Halaut Easu)  female  18.0      0
0
9                       Davies, Mr. John Samuel    male  21.0      2
0

      Ticket     Fare Cabin Embarked
0     330911   7.8292   NaN        Q
1     363272   7.0000   NaN        S
2     240276   9.6875   NaN        Q
3     315154   8.6625   NaN        S
4    3101298  12.2875   NaN        S
5       7538   9.2250   NaN        S
6     330972   7.6292   NaN        Q
7     248738  29.0000   NaN        S
8       2657   7.2292   NaN        C
9  A/4 48871  24.1500   NaN        S
```

```
df.shape
```

```
(418, 12)
```

```
df.describe()
```

```
       PassengerId    Survived      Pclass         Age       SibSp  \
count   418.000000  418.000000  418.000000  332.000000  418.000000
mean   1100.500000    0.363636    2.265550   30.272590    0.447368
std     120.810458    0.481622    0.841838   14.181209    0.896760
min     892.000000    0.000000    1.000000    0.170000    0.000000
25%     996.250000    0.000000    1.000000   21.000000    0.000000
50%    1100.500000    0.000000    3.000000   27.000000    0.000000
75%    1204.750000    1.000000    3.000000   39.000000    1.000000
max    1309.000000    1.000000    3.000000   76.000000    8.000000
```

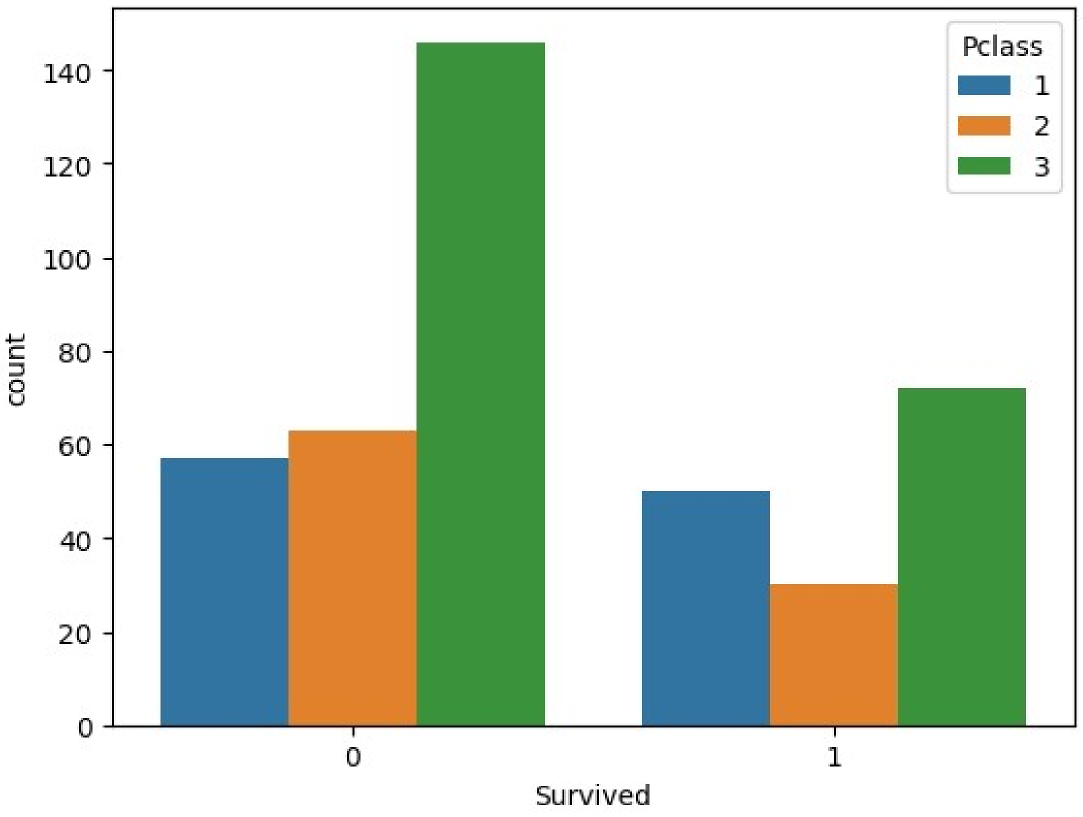
```
            Parch        Fare
count  418.000000  417.000000
mean     0.392344   35.627188
std      0.981429   55.907576
min      0.000000    0.000000
25%      0.000000    7.895800
50%      0.000000   14.454200
75%      0.000000   31.500000
max      9.000000  512.329200
```

```
df['Survived'].value_counts()
```

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

```
#let's visualize the count of survivals wrt pclass
sns.countplot(x=df['Survived'], hue=df['Pclass'])
```

```
<AxesSubplot: xlabel='Survived', ylabel='count'>
```



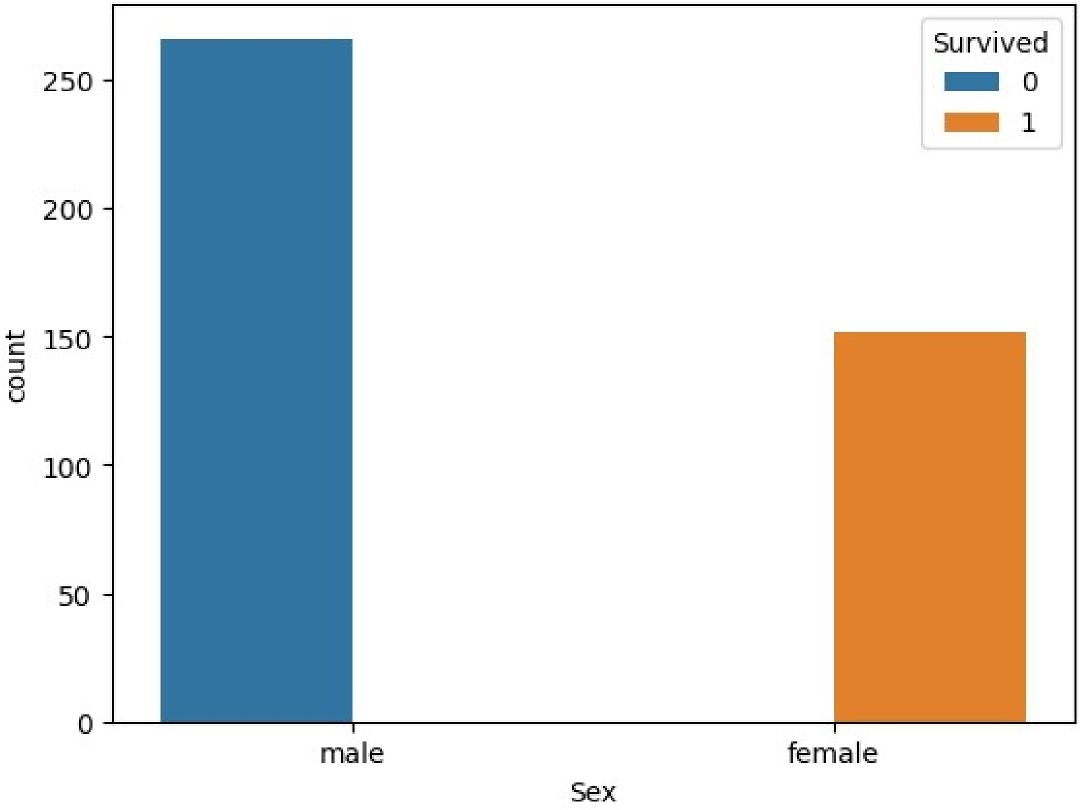
```
df["Sex"]
```

```
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
```

```
#let's visualize the count of survivals wrt Gender
sns.countplot(x=df['Sex'], hue=df['Survived'])
```

```
<AxesSubplot: xlabel='Sex', ylabel='count'>
```



```
#Look at survival rate by sex
df.groupby('Sex')[['Survived']].mean()
```

```
        Survived
Sex
female       1.0
male         0.0
```

```
df['Sex'].unique()
```

```
array(['male', 'female'], dtype=object)
```

```
from sklearn.preprocessing import LabelEncoder
labelencoder = LabelEncoder()
```

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

```
df.head()
```

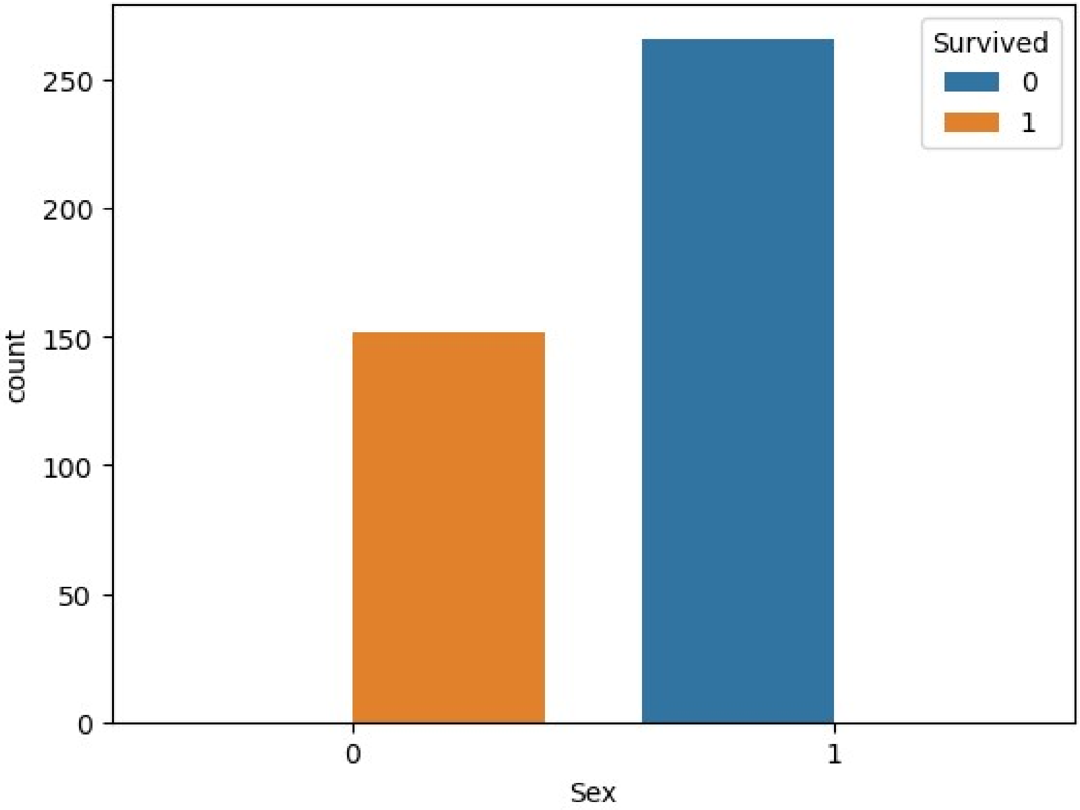
```
   PassengerId  Survived  Pclass  \
0          892         0       3
1          893         1       3
2          894         0       2
3          895         0       3
4          896         1       3

                                           Name  Sex   Age  SibSp
Parch  \
0                              Kelly, Mr. James    1  34.5      0
0
1              Wilkes, Mrs. James (Ellen Needs)    0  47.0      1
0
2                     Myles, Mr. Thomas Francis    1  62.0      0
0
3                              Wirz, Mr. Albert    1  27.0      0
0
4  Hirvonen, Mrs. Alexander (Helga E Lindqvist)    0  22.0      1
1

    Ticket     Fare Cabin Embarked
0   330911   7.8292   NaN        Q
1   363272   7.0000   NaN        S
2   240276   9.6875   NaN        Q
3   315154   8.6625   NaN        S
4  3101298  12.2875   NaN        S
```

```
df['Sex'], df['Survived']
```

```
(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: int64,
 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)
```

```
sns.countplot(x=df['Sex'], hue=df["Survived"])
```

```
<AxesSubplot: xlabel='Sex', ylabel='count'>
```



```
df.isna().sum()
```

```
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

# After dropping non required column
df=df.drop(['Age'], axis=1)

df_final = df
df_final.head(10)

   PassengerId  Survived  Pclass  \
0          892         0       3
1          893         1       3
2          894         0       2
3          895         0       3
4          896         1       3
5          897         0       3
6          898         1       3
7          899         0       2
8          900         1       3
9          901         0       3

                                           Name  Sex  SibSp  Parch
Ticket  \
0                              Kelly, Mr. James    1      0      0
330911
1              Wilkes, Mrs. James (Ellen Needs)    0      1      0
363272
2                     Myles, Mr. Thomas Francis    1      0      0
240276
3                              Wirz, Mr. Albert    1      0      0
315154
4  Hirvonen, Mrs. Alexander (Helga E Lindqvist)    0      1      1
3101298
5                    Svensson, Mr. Johan Cervin    1      0      0
7538
6                          Connolly, Miss. Kate    0      0      0
330972
7                  Caldwell, Mr. Albert Francis    1      1      1
248738
8     Abrahim, Mrs. Joseph (Sophie Halaut Easu)    0      0      0
2657
9                       Davies, Mr. John Samuel    1      2      0
A/4 48871
```

```
      Fare Cabin Embarked
0   7.8292   NaN        Q
1   7.0000   NaN        S
2   9.6875   NaN        Q
3   8.6625   NaN        S
4  12.2875   NaN        S
5   9.2250   NaN        S
6   7.6292   NaN        Q
7  29.0000   NaN        S
8   7.2292   NaN        C
9  24.1500   NaN        S
```

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

```
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 = 0)
```

```
from sklearn.linear_model import LogisticRegression
```

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

```
LogisticRegression(random_state=0)
```

```
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]
```

```
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
```

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

res= log.predict([[2,1]])

if(res==0):
  print("So Sorry! Not Survived")
else:
  print("Survived")
```

```
So Sorry! Not Survived
```