Technological Institute of the Philippines

Computer Engineering Department

Quezon city Campus

Activity No. and Title:

Course: CPE 009	Program: BSCpE
Course Title: Emerging technologies 2	**Date Performed:02/21/24**
Section:CPE32S9	**Date Submitted:02/21/24**
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Objective/s of the activity:

Part 1: Import the Libraries and Data

Part 2: Plot the Data

Part 3: Perform Simple Linear Regression on the SURVIVAL feature column (you can check the internet on how you can perform simple linear regression)

```
from google.colab import drive
drive.mount("/content/drive")
```

```
Mounted at /content/drive
```

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

-Check II

```
df_train = pd.read_csv("/content/titanic_train.csv")
df_train.head()
```

	PassengerId	Survived	Pclass	Name	Sex	Age	SibSp	Parch	Ticket	Fare
0	1	0	3	Braund, Mr. Owen Harris	male	22.0	1	0	A/5 21171	7.250(
1	2	1	1	Cumings, Mrs. John Bradley (Florence Briggs	female	38.0	1	0	PC 17599	71.283:

Next steps: View recommended plots

```
df_train.tail()
```

	PassengerId	Survived	Pclass	Name	Sex	Age	SibSp	Parch	Ticket	Fare	(
886	887	0	2	Montvila, Rev. Juozas	male	27.0	0	0	211536	13.00	
887	888	1	1	Graham, Miss. Margaret Edith	female	19.0	0	0	112053	30.00	

```
df_train.dtypes
```

```
PassengerId      int64
Survived         int64
Pclass           int64
Name            object
Sex             object
Age            float64
SibSp            int64
Parch            int64
Ticket          object
Fare           float64
Cabin           object
Embarked        object
dtype: object
```

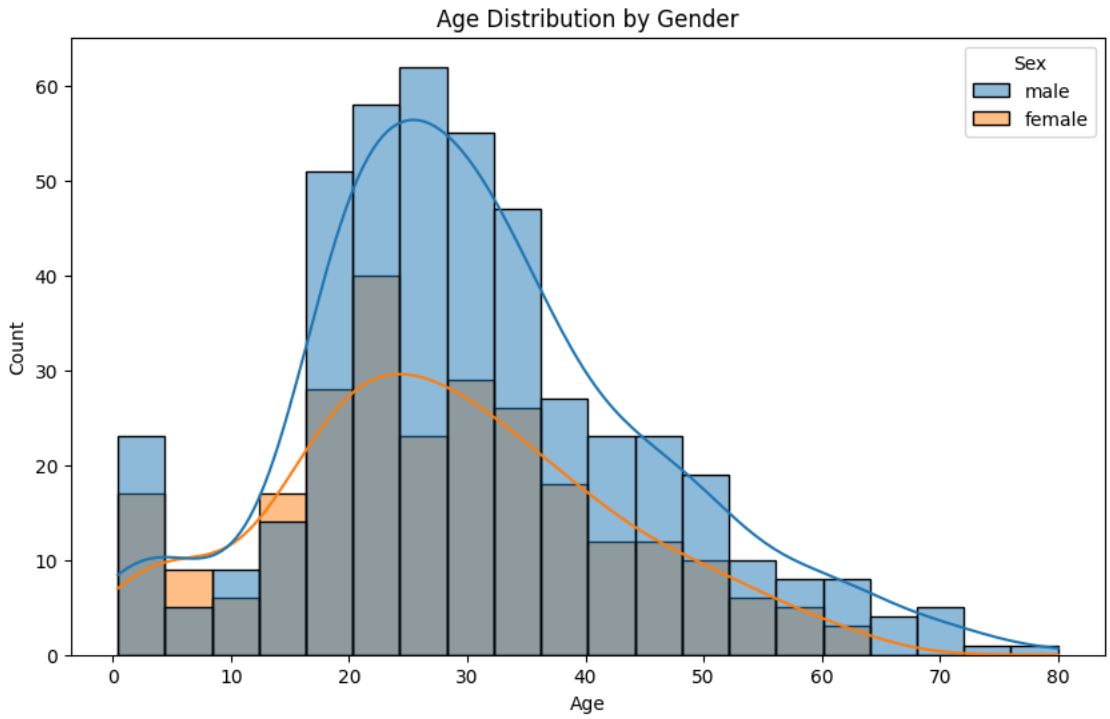
```
df_train.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 891 entries, 0 to 890
Data columns (total 12 columns):
 #   Column       Non-Null Count  Dtype  
---  ------       --------------  -----  
 0   PassengerId  891 non-null    int64  
 1   Survived     891 non-null    int64  
 2   Pclass       891 non-null    int64  
 3   Name         891 non-null    object 
 4   Sex          891 non-null    object 
 5   Age          714 non-null    float64
 6   SibSp        891 non-null    int64  
 7   Parch        891 non-null    int64  
 8   Ticket       891 non-null    object 
 9   Fare         891 non-null    float64
 10  Cabin        204 non-null    object 
 11  Embarked     889 non-null    object 
dtypes: float64(2), int64(5), object(5)
memory usage: 83.7+ KB
```

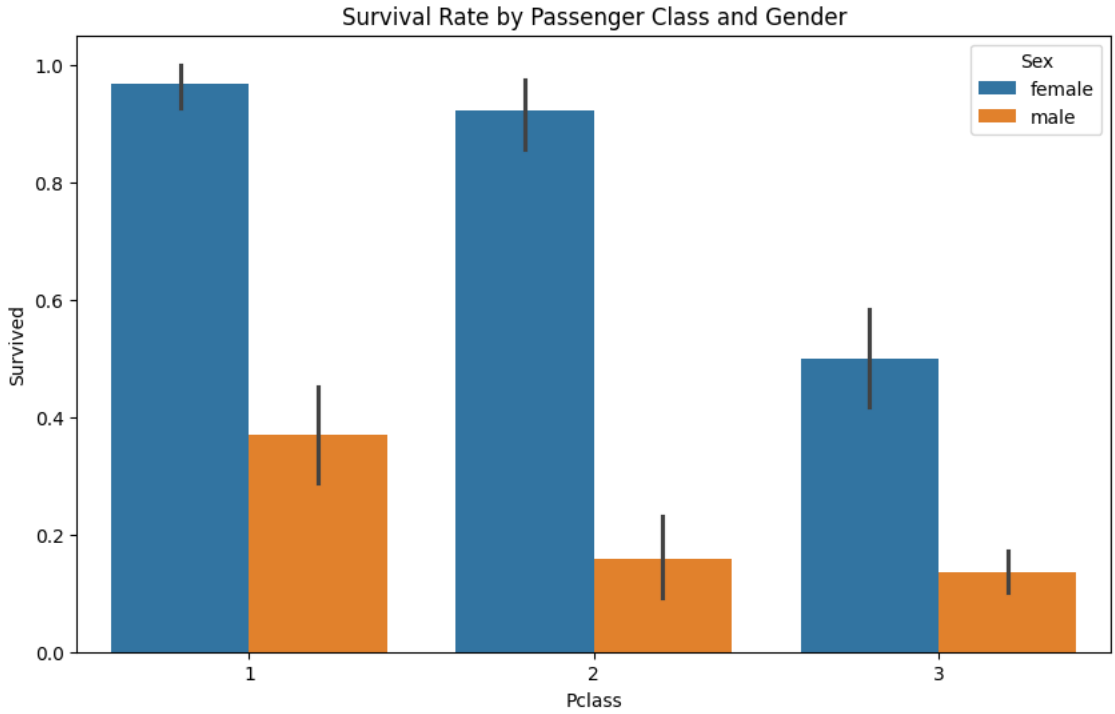
```
df_train.describe()
```

	PassengerId	Survived	Pclass	Age	SibSp	Parch	Fare
count	891.000000	891.000000	891.000000	714.000000	891.000000	891.000000	891.000000
mean	446.000000	0.383838	2.308642	29.699118	0.523008	0.381594	32.204208
std	257.353842	0.486592	0.836071	14.526497	1.102743	0.806057	49.693429
min	1.000000	0.000000	1.000000	0.420000	0.000000	0.000000	0.000000
25%	223.500000	0.000000	2.000000	20.125000	0.000000	0.000000	7.910400
50%	446.000000	0.000000	3.000000	28.000000	0.000000	0.000000	14.454200
75%	668.500000	1.000000	3.000000	38.000000	1.000000	0.000000	31.000000
max	891.000000	1.000000	3.000000	80.000000	8.000000	6.000000	512.329200

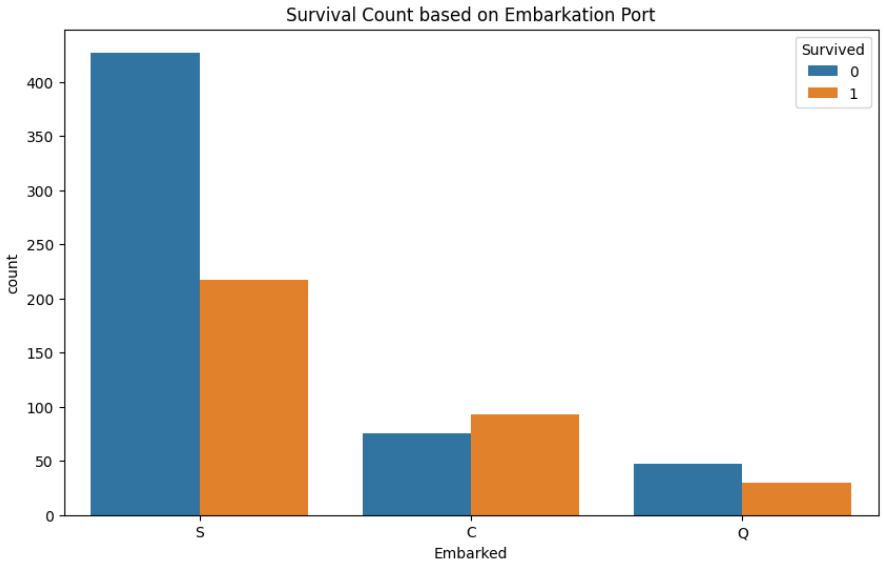
```
plt.figure(figsize=(10, 6))
sns.histplot(data=df_train, x='Age', kde=True, hue='Sex')
plt.title('Age Distribution by Gender')
plt.show()
```



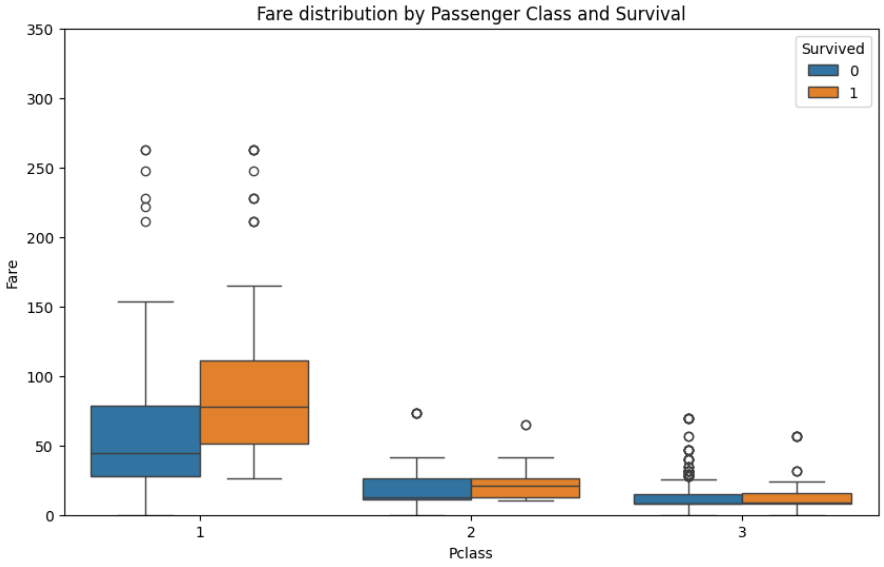

```
plt.figure(figsize=(10, 6))
sns.barplot(data=df_train, x='Pclass', y='Survived', hue='Sex')
plt.title('Survival Rate by Passenger Class and Gender')
plt.show()
```



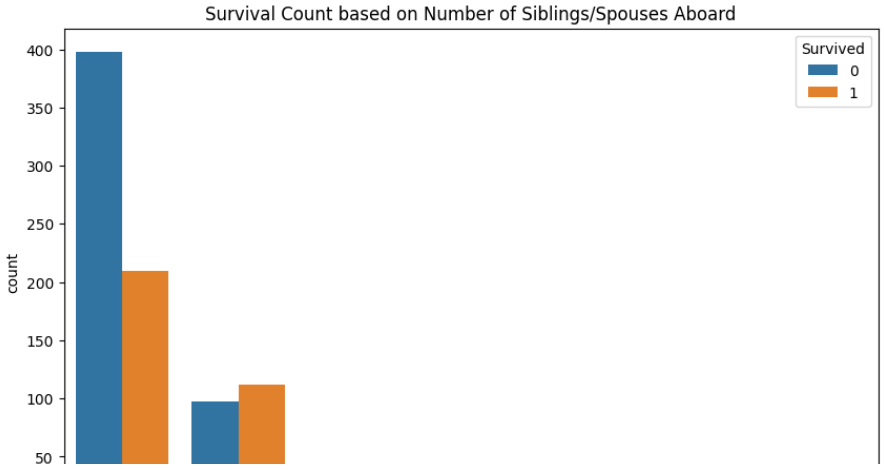

```
plt.figure(figsize=(10, 6))
sns.countplot(data=df_train, x='Embarked', hue='Survived')
plt.title('Survival Count based on Embarkation Port')
plt.show()
```




```
plt.figure(figsize=(10, 6))
sns.boxplot(data=df_train, x='Pclass', y='Fare', hue='Survived')
plt.ylim(0, 350)  # Limiting y-axis to 350 for better visualization
plt.title('Fare distribution by Passenger Class and Survival')
plt.show()
```




```
plt.figure(figsize=(10, 6))
sns.countplot(data=df_train, x='SibSp', hue='Survived')
plt.title('Survival Count based on Number of Siblings/Spouses Aboard')
plt.show()
```


Survival Count based on Number of Siblings/Spouses Aboard
Survived
0
1
count
400
350
300
250
200
150
100
50