Question 1

```python
import pandas as pd
df = pd.read_csv('Titanic - Titanic.csv')

df.head(1)
df.tail(10)
```

Out[ ]:

	PassengerId	Survived	Pclass	Name	Sex	Age	SibSp	Parch	Ticket	
881	882	0	3	Markun, Mr. Johann	male	33.0	0	0	349257	7.
882	883	0	3	Dahlberg, Miss. Gerda Ulrika	female	22.0	0	0	7552	10.
883	884	0	2	Banfield, Mr. Frederick James	male	28.0	0	0	C.A./SOTON 34068	10.
884	885	0	3	Sutehall, Mr. Henry Jr	male	25.0	0	0	SOTON/OQ 392076	7.
885	886	0	3	Rice, Mrs. William (Margaret Norton)	female	39.0	0	5	382652	29.
886	887	0	2	Montvila, Rev. Juozas	male	27.0	0	0	211536	13.
887	888	1	1	Graham, Miss. Margaret Edith	female	19.0	0	0	112053	30.
888	889	0	3	Johnston, Miss. Catherine Helen "Carrie"	female	NaN	1	2	W./C. 6607	23.
889	890	1	1	Behr, Mr. Karl Howell	male	26.0	0	0	111369	30.
890	891	0	3	Dooley, Mr. Patrick	male	32.0	0	0	370376	7.

In [ ]:
```python
import pandas as pd
df = pd.read_csv('Titanic - Titanic.csv')
df.info()
df.describe()
```

```
<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
```

Out[ ]:

	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

In [ ]:
```python
import pandas as pd
df = pd.read_csv('Titanic - Titanic.csv')
df.shape
```
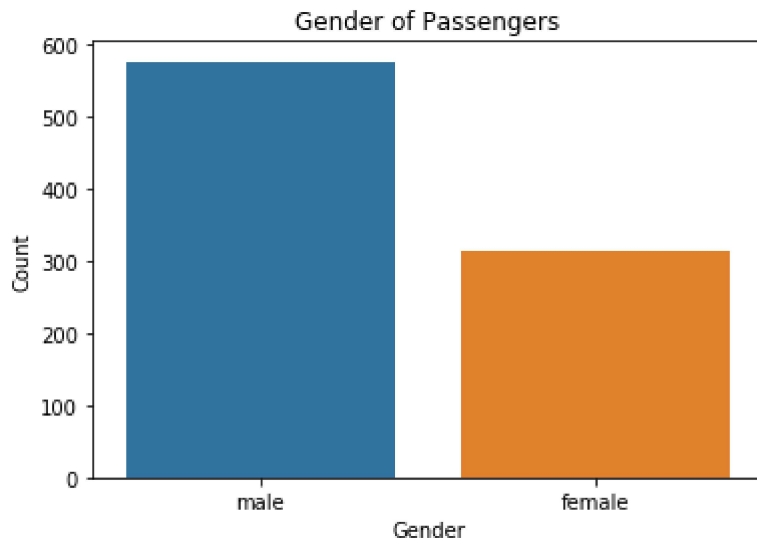
Out[ ]: (891, 12)

Question 2

Visualize the Gender of Passengers using the Bar graph.

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

gender_counts = df['Sex'].value_counts()
plt.figure(figsize=(6, 4))
```

```
sns.barplot(x=gender_counts.index, y=gender_counts.values)
plt.title('Gender of Passengers')
plt.xlabel('Gender')
plt.ylabel('Count')
plt.show()
```

Gender of Passengers

Visualize the Survival Count of Passengers using the Bar graph.
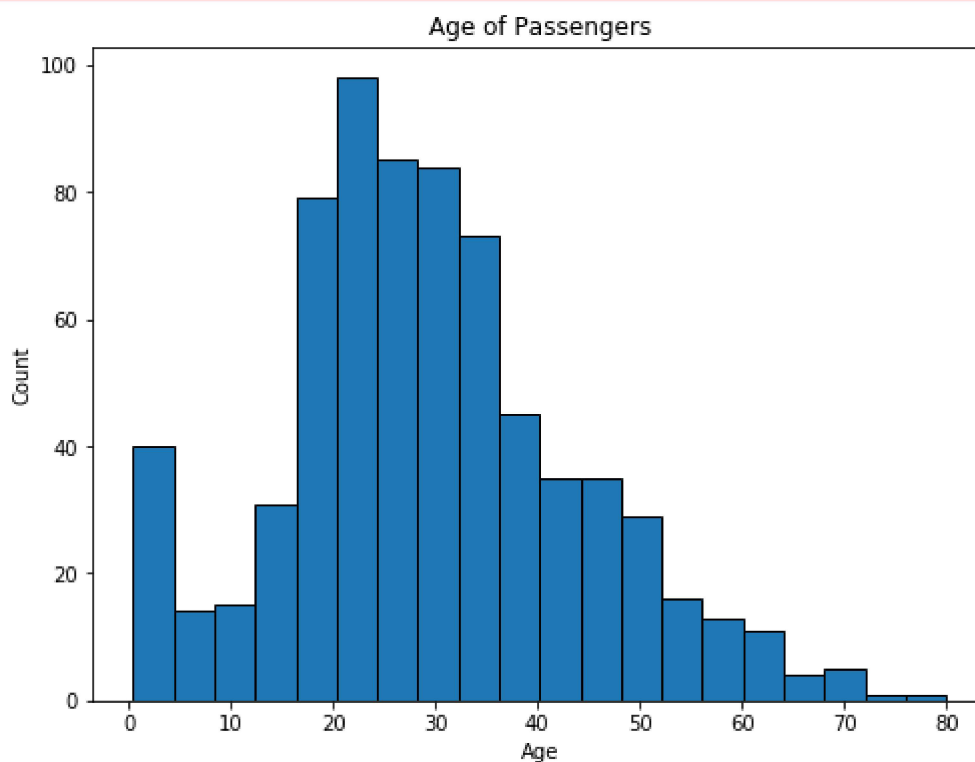
```
In [ ]:  import numpy as np
         import pandas as pd
         import seaborn as sns
         import matplotlib.pyplot as plt
         survival_counts = df['Survived'].value_counts()
         plt.figure(figsize=(6, 4))
         sns.barplot(x=survival_counts.index, y=survival_counts.values)
         plt.title('Survival Count of Passengers')
         plt.xlabel('Survived')
         plt.ylabel('Count')
         plt.show()
```

Survival Count of Passengers
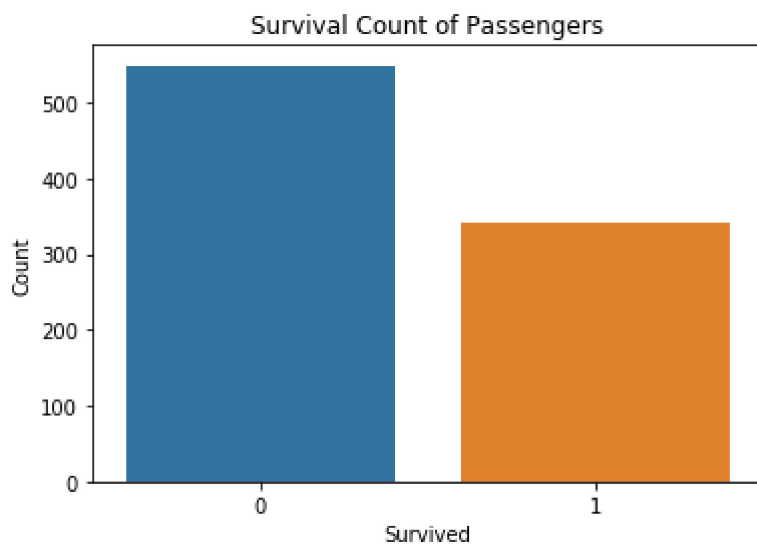
Visualize the Age of Passengers using the Bar/Histogram graph.

```
In [ ]:  import numpy as np
         import pandas as pd
         import seaborn as sns
         import matplotlib.pyplot as plt
         plt.figure(figsize=(8, 6))
         plt.hist(df['Age'], bins=20, edgecolor='black')
         plt.title('Age of Passengers')
         plt.xlabel('Age')
         plt.ylabel('Count')
         plt.show()
```

```
c:\ProgramData\Anaconda3\lib\site-packages\numpy\lib\histograms.py:824: RuntimeWarni
ng: invalid value encountered in greater_equal
  keep = (tmp_a >= first_edge)
c:\ProgramData\Anaconda3\lib\site-packages\numpy\lib\histograms.py:825: RuntimeWarni
ng: invalid value encountered in less_equal
  keep &= (tmp_a <= last_edge)
```


Visualize the comparison of Age and Fare of Passengers using the Scatterplot.

```
In [ ]:  import numpy as np
         import pandas as pd
         import seaborn as sns
         import matplotlib.pyplot as plt
         plt.figure(figsize=(8, 6))
         sns.scatterplot(x='Age', y='Fare', data=df)
         plt.title('Age vs Fare of Passengers')
         plt.xlabel('Age')
         plt.ylabel('Fare')
         plt.show()
```

Age vs Fare of Passengers