

```
##Q1. Download the Titanic dataset and perform the Exploratory data analysis using pandas.
## Read the dataset (df= pd.read_csv(r'.....\Titanic.csv'))
## Display the first and last 10 instances from the dataset
## Acquire the necessary information using the df.info() and df. Describe().
## Retrieve the number of columns and rows. (using shape)
```

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

```
print(df.head(10))
```

```
print(df.tail(10))
```

```
print(df.info())
```

```
print(df.describe())
```

```
print(df.shape)
```

	PassengerId	Survived	Pclass	\
0	1	0	3	
1	2	1	1	
2	3	1	3	
3	4	1	1	
4	5	0	3	
5	6	0	3	
6	7	0	1	
7	8	0	3	
8	9	1	3	
9	10	1	2	

	Name	Sex	Age	SibSp	\
0	Braund, Mr. Owen Harris	male	22.0	1	
1	Cumings, Mrs. John Bradley (Florence Briggs Th...	female	38.0	1	
2	Heikkinen, Miss. Laina	female	26.0	0	
3	Futrelle, Mrs. Jacques Heath (Lily May Peel)	female	35.0	1	
4	Allen, Mr. William Henry	male	35.0	0	
5	Moran, Mr. James	male	NaN	0	
6	McCarthy, Mr. Timothy J	male	54.0	0	
7	Palsson, Master. Gosta Leonard	male	2.0	3	
8	Johnson, Mrs. Oscar W (Elisabeth Vilhelmina Berg)	female	27.0	0	
9	Nasser, Mrs. Nicholas (Adele Achem)	female	14.0	1	

	Parch	Ticket	Fare	Cabin	Embarked
0	0	A/5 21171	7.2500	NaN	S
1	0	PC 17599	71.2833	C85	C
2	0	STON/O2. 3101282	7.9250	NaN	S
3	0	113803	53.1000	C123	S
4	0	373450	8.0500	NaN	S
5	0	330877	8.4583	NaN	Q
6	0	17463	51.8625	E46	S
7	1	349909	21.0750	NaN	S
8	2	347742	11.1333	NaN	S
9	0	237736	30.0708	NaN	C

	PassengerId	Survived	Pclass	Name	\
881	882	0	3	Markun, Mr. Johann	
882	883	0	3	Dahlberg, Miss. Gerda Ulrika	
883	884	0	2	Banfield, Mr. Frederick James	
884	885	0	3	Sutehall, Mr. Henry Jr	
885	886	0	3	Rice, Mrs. William (Margaret Norton)	
886	887	0	2	Montvila, Rev. Juozas	
887	888	1	1	Graham, Miss. Margaret Edith	
888	889	0	3	Johnston, Miss. Catherine Helen "Carrie"	
889	890	1	1	Behr, Mr. Karl Howell	
890	891	0	3	Dooley, Mr. Patrick	

	Sex	Age	SibSp	Parch	Ticket	Fare	Cabin	Embarked
881	male	33.0	0	0	349257	7.8958	NaN	S
882	female	22.0	0	0	7552	10.5167	NaN	S
883	male	28.0	0	0	C.A./SOTON 34068	10.5000	NaN	S
884	male	25.0	0	0	SOTON/OQ 392076	7.0500	NaN	S
885	female	39.0	0	5	382652	29.1250	NaN	Q
886	male	27.0	0	0	211536	13.0000	NaN	S

887	female	19.0	0	0	112053	30.0000	B42	S
888	female	NaN	1	2	W./C. 6607	23.4500	NaN	S
889	male	26.0	0	0	111369	30.0000	C148	C
890	male	22.0	0	0	270276	7.7500	NaN	C

##Q2. Create the data visualization using the matplotlib.

Visualize the Gender of Passengers using the Bar graph.

Visualize the Survival Count of Passengers using the Bar graph.

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

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

```
import matplotlib.pyplot as plt
```

```
gender_counts = df['Sex'].value_counts()
plt.bar(gender_counts.index, gender_counts.values)
plt.title('Gender of Passengers')
plt.xlabel('Gender')
plt.ylabel('Count')
plt.show()
```

```
survival_counts = df['Survived'].value_counts()
plt.bar(survival_counts.index, survival_counts.values)
plt.title('Survival Count of Passengers')
plt.xlabel('Survival')
plt.ylabel('Count')
plt.show()
```

```
plt.hist(df['Age'].dropna(), bins=20)
plt.title('Age of Passengers')
plt.xlabel('Age')
plt.ylabel('Count')
plt.show()
```

```
plt.scatter(df['Age'], df['Fare'])
plt.title('Comparison of Age and Fare of Passengers')
plt.xlabel('Age')
plt.ylabel('Fare')
plt.show()
```

