	Survived	Pclass	Sex	Age	SibSp	Parch	Fare	Embarked	Title	AgeBand
0	0	3	0	1	1	0	7.2500	S	1	(20.996, 21.004]
1	1	1	1	1	1	0	71.2833	C	3	(20.996, 21.004]
2	1	3	1	1	0	0	7.9250	S	2	(20.996, 21.004]
3	1	1	1	1	1	0	53.1000	S	3	(20.996, 21.004]
4	0	3	0	1	0	0	8.0500	S	1	(20.996, 21.004]

	FareBand	Survived
0	(-0.001, 7.91]	0.197309
1	(7.91, 14.454]	0.303571
2	(14.454, 31.0]	0.454955
3	(31.0, 512.329]	0.581081

	Survived	Pclass	Sex	Age	SibSp	Parch	Fare	Embarked	Title
0	0	3	0	1	1	0	7.2500	S	1
1	1	1	1	1	1	0	71.2833	C	3
2	1	3	1	1	0	0	7.9250	S	2
3	1	1	1	1	1	0	53.1000	S	3
4	0	3	0	1	0	0	8.0500	S	1
...	...	...	...	...	...	...	...	...	...
886	0	2	0	1	0	0	13.0000	S	5
887	1	1	1	1	0	0	30.0000	S	2
888	0	3	1	1	1	2	23.4500	S	2
889	1	1	0	1	0	0	30.0000	C	1
890	0	3	0	1	0	0	7.7500	Q	1

891 rows × 9 columns

	Feature	Correlation
1	Sex	2.179225
5	Title	0.408812
4	Embarked	0.301664
6	isAlone	0.022209
2	Age	0.000450
3	Fare	-0.048796
0	Pclass	-0.486877
7	AgeClass	-0.486877

	Survived	Pclass	Sex	Age	Fare	Embarked	Title	isAlone	AgeClass
0	0	3	0	1	7.2500	0	1	0	3
1	1	1	1	1	71.2833	1	3	0	1
2	1	3	1	1	7.9250	0	2	1	3
3	1	1	1	1	53.1000	0	3	0	1
4	0	3	0	1	8.0500	0	1	1	3
5	0	3	0	1	8.4583	2	1	1	3
6	0	1	0	1	51.8625	0	1	1	1
7	0	3	0	1	21.0750	0	4	0	3
8	1	3	1	1	11.1333	0	3	0	3
9	1	2	1	1	30.0708	1	3	0	2

	Feature	Correlation
1	Sex	2.179225
5	Title	0.408812
4	Embarked	0.301664
6	isAlone	0.022209
2	Age	0.000450
3	Fare	-0.048796
0	Pclass	-0.486877
7	AgeClass	-0.486877

	Pclass	Name	Sex	Age	Fare	Embarked	Title	isAlone	AgeClass
0	3	Kelly, Mr. James	0	1	7.8292	2	1	1	3
1	3	Wilkes, Mrs. James (Ellen Needs)	1	1	7.0000	0	3	0	3
2	2	Myles, Mr. Thomas Francis	0	1	9.6875	2	1	1	2
3	3	Wirz, Mr. Albert	0	1	8.6625	0	1	1	3
4	3	Hirvonen, Mrs. Alexander (Helga E Lindqvist)	1	1	12.2875	0	3	0	3
...	...	...	...	...	...	...	...	...	...
413	3	Spector, Mr. Woolf	0	1	8.0500	0	1	1	3
414	1	Oliva y Ocana, Dona. Fermina	1	1	108.9000	1	5	1	1
415	3	Saether, Mr. Simon Sivertsen	0	1	7.2500	0	1	1	3
416	3	Ware, Mr. Frederick	0	1	8.0500	0	1	1	3
417	3	Peter, Master. Michael J	0	1	22.3583	1	4	0	3

418 rows × 9 columns

	Model	Scores
0	Logistic Regression	78.90
1	SGD	73.96

	Survived	Pclass	Sex	Age	Fare	Embarked	Title	isAlone	AgeClass
0	0	3	0	1	0	0	1	0	3
1	1	1	1	1	3	1	3	0	1
2	1	3	1	1	1	0	2	1	3
3	1	1	1	1	3	0	3	0	1
4	0	3	0	1	1	0	1	1	3
...	...	...	...	...	...	...	...	...	...
886	0	2	0	1	1	0	5	1	2
887	1	1	1	1	2	0	2	1	1
888	0	3	1	1	2	0	2	0	3
889	1	1	0	1	2	1	1	1	1
890	0	3	0	1	0	2	1	1	3

891 rows × 9 columns

	Pclass	Sex	Age	Fare	Embarked	Title	isAlone	AgeClass
0	3	0	1	0	2	1	1	3
1	3	1	1	0	0	3	0	3
2	2	0	1	1	2	1	1	2
3	3	0	1	1	0	1	1	3
4	3	1	1	1	0	3	0	3
...	...	...	...	...	...	...	...	...
95	3	0	1	0	0	1	1	3
96	1	1	1	3	0	3	0	1
97	3	0	1	1	0	1	1	3
98	3	1	1	0	0	2	1	3
99	3	0	1	1	0	1	1	3

100 rows × 8 columns

	Survived	Pclass	Name	Sex	Age	SibSp	Parch	Fare	Embarked	Title
0	0	3	Braund, Mr. Owen Harris	male	22.0	1	0	7.2500	S	1
1	1	1	Cumings, Mrs. John Bradley (Florence Briggs Th...	female	38.0	1	0	71.2833	C	3
2	1	3	Heikkinen, Miss. Laina	female	26.0	0	0	7.9250	S	2
3	1	1	Futrelle, Mrs. Jacques Heath (Lily May Peel)	female	35.0	1	0	53.1000	S	3
4	0	3	Allen, Mr. William Henry	male	35.0	0	0	8.0500	S	1

```
((891, 8), (891,), (418, 8))
```

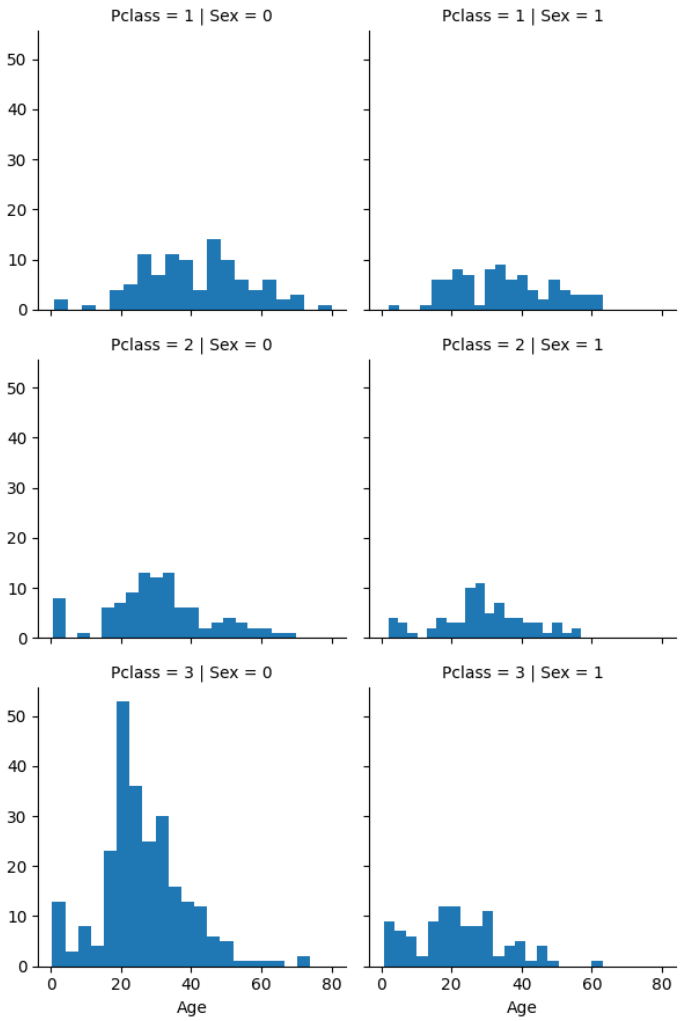
Embarked	Survived
S	0.339009
Q	0.389610
C	0.553571

	Survived	Pclass	Sex	Age	SibSp	Parch	Fare	Embarked	Title
0	0	3	0	22.0	1	0	7.2500	S	1
1	1	1	1	38.0	1	0	71.2833	C	3
2	1	3	1	26.0	0	0	7.9250	S	2
3	1	1	1	35.0	1	0	53.1000	S	3
4	0	3	0	35.0	0	0	8.0500	S	1

```
78.9 %
```

	FamilySize	Survived
7	8	0.000000
8	11	0.000000
5	6	0.136364
4	5	0.200000
0	1	0.303538
6	7	0.333333
1	2	0.552795
2	3	0.578431
3	4	0.724138

	Survived	Pclass	Sex	Age	SibSp	Parch	Fare	Embarked	Title	AgeBand
0	0	3	0	1	1	0	7.2500	S	1	(20.996, 21.004]
1	1	1	1	1	1	0	71.2833	C	3	(20.996, 21.004]
2	1	3	1	1	0	0	7.9250	S	2	(20.996, 21.004]
3	1	1	1	1	1	0	53.1000	S	3	(20.996, 21.004]
4	0	3	0	1	0	0	8.0500	S	1	(20.996, 21.004]



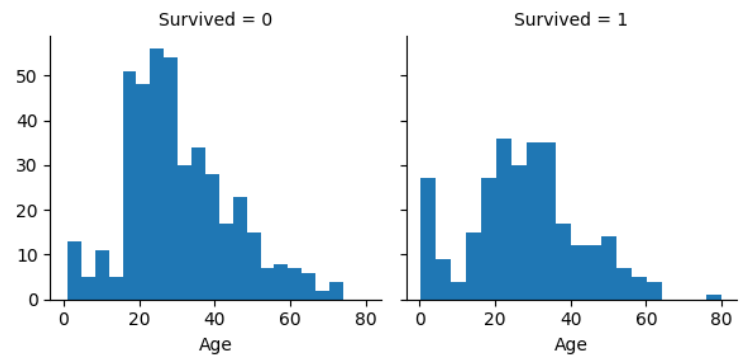
isAlone	Survived
1	0.303538
0	0.505650

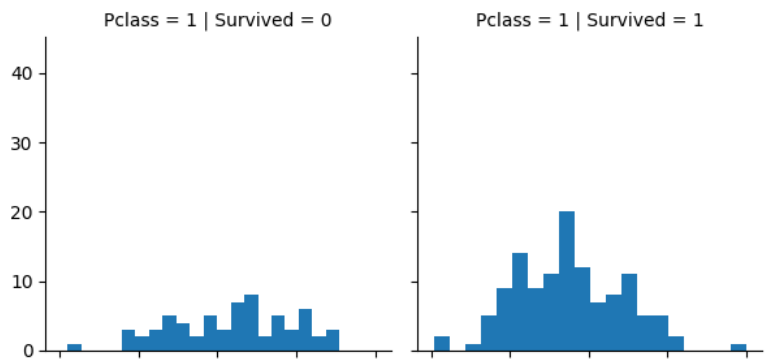
	Survived	Pclass	Sex	Age	SibSp	Parch	Fare	Embarked	Title
0	0	3	0	21	1	0	7.2500	S	1
1	1	1	1	21	1	0	71.2833	C	3
2	1	3	1	21	0	0	7.9250	S	2
3	1	1	1	21	1	0	53.1000	S	3
4	0	3	0	21	0	0	8.0500	S	1

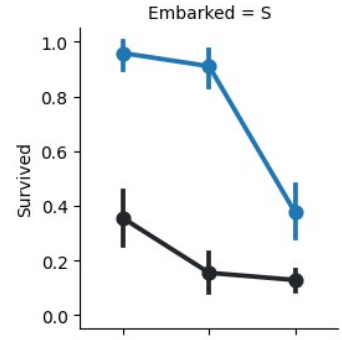
	Age	Pclass	AgeClass
0	1	3	3
1	1	1	1
2	1	3	3
3	1	1	1
4	1	3	3
5	1	3	3
6	1	1	1
7	1	3	3
8	1	3	3
9	1	2	2

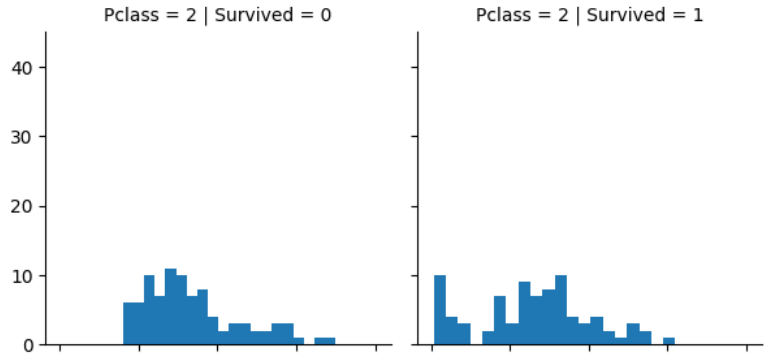
```
count     889
unique      3
top         S
freq      644
Name: Embarked, dtype: object
```

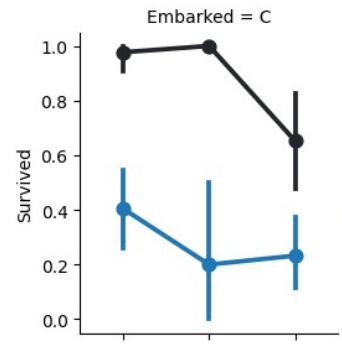
```
73.96 %
```

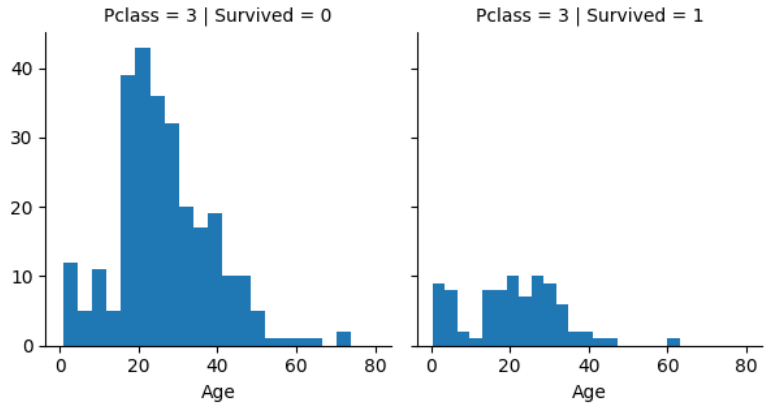


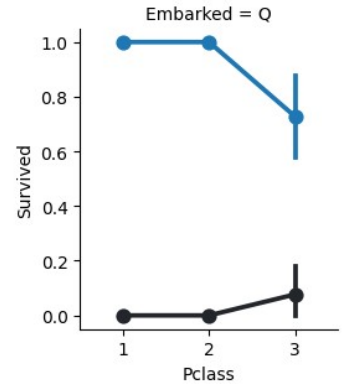






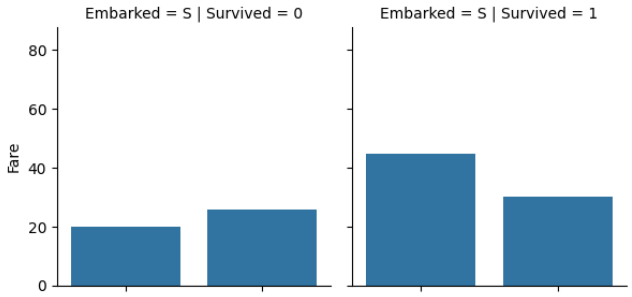


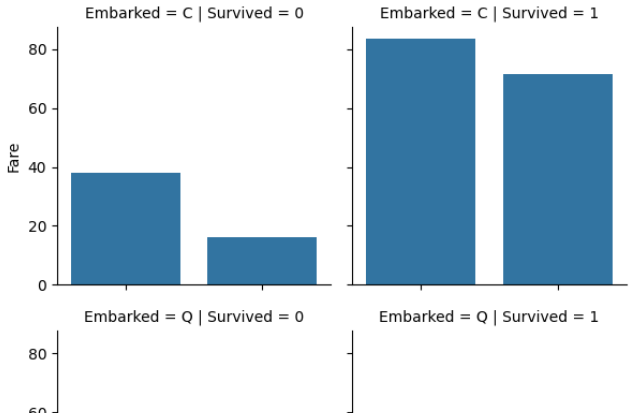


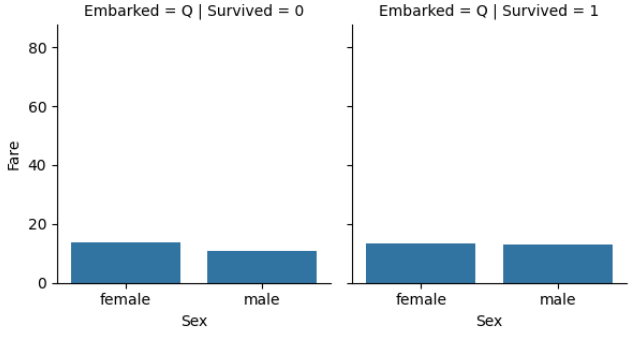


Sex	female	male
Title		
Capt	0	1
Col	0	2
Countess	1	0
Don	0	1
Dr	1	6
Jonkheer	0	1
Lady	1	0
Major	0	2
Master	0	40
Miss	182	0
Mlle	2	0
Mme	1	0
Mr	0	517
Mrs	125	0
Ms	1	0
Rev	0	6
Sir	0	1

```
array([[0., 0., 0.],
       [0., 0., 0.]])
```








```
<bound method DataFrame.sort_index of          AgeBand  Survived
0  (20.979, 20.987]       NaN
1  (20.987, 20.996]       NaN
2  (20.996, 21.004]  0.383838
3  (21.004, 21.013]       NaN
4  (21.013, 21.021]       NaN>
```

	Survived	Pclass	Age	SibSp	Parch	Fare
Title						
Master	0.575000	2.625000	4.574167	2.300000	1.375000	34.703125
Miss	0.702703	2.291892	21.845638	0.702703	0.540541	43.800092
Mr	0.156673	2.410058	32.368090	0.288201	0.152805	24.441560
Mrs	0.793651	1.992063	35.788991	0.690476	0.825397	45.330290
Other	0.347826	1.347826	45.545455	0.347826	0.086957	37.169748

```
Output exceeds the size limit. Open the full output data in a text editor
c:\Users\samya\AppData\Local\Programs\Python\Python310\lib\site-packages\seaborn\axisgrid.py:712: UserWarning: Using the barplot function without specifying `order` is likely to produc
  warnings.warn(warning)
```

	PassengerId	Survived	Pclass	Name	Sex	Age	SibSp	Parch	Ticket	Fare	Cabin	Embarked
876	877	0	3	Gustafsson, Mr. Alfred Ossian	male	20.0	0	0	7534	9.8458	NaN	S
877	878	0	3	Petroff, Mr. Nedelio	male	19.0	0	0	349212	7.8958	NaN	S
878	879	0	3	Laleff, Mr. Kristo	male	NaN	0	0	349217	7.8958	NaN	S
879	880	1	1	Potter, Mrs. Thomas Jr (Lily Alexenia Wilson)	female	56.0	0	1	11767	83.1583	C50	C
880	881	1	2	Shelley, Mrs. William (Imanita Parrish Hall)	female	25.0	0	1	230433	26.0000	NaN	S
881	882	0	3	Markun, Mr. Johann	male	33.0	0	0	349257	7.8958	NaN	S
882	883	0	3	Dahlberg, Miss. Gerda Ulrika	female	22.0	0	0	7552	10.5167	NaN	S
883	884	0	2	Banfield, Mr. Frederick James	male	28.0	0	0	C.A./SOTON 34068	10.5000	NaN	S
884	885	0	3	Sutehall, Mr. Henry Jr	male	25.0	0	0	SOTON/OQ 392076	7.0500	NaN	S
885	886	0	3	Rice, Mrs. William (Margaret Norton)	female	39.0	0	5	382652	29.1250	NaN	Q
886	887	0	2	Montvila, Rev. Juozas	male	27.0	0	0	211536	13.0000	NaN	S
887	888	1	1	Graham, Miss. Margaret Edith	female	19.0	0	0	112053	30.0000	B42	S
888	889	0	3	Johnston, Miss. Catherine Helen "Carrie"	female	NaN	1	2	W./C. 6607	23.4500	NaN	S
889	890	1	1	Behr, Mr. Karl Howell	male	26.0	0	0	111369	30.0000	C148	C
890	891	0	3	Dooley, Mr. Patrick	male	32.0	0	0	370376	7.7500	NaN	Q

```
Output exceeds the size limit. Open the full o
<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
```

	PassengerId	Pclass	Name	Sex	Age	SibSp	Parch	Ticket	Fare	Cabin	Embarked
403	1295	1	Carrau, Mr. Jose Pedro	male	17.0	0	0	113059	47.1000	NaN	S
404	1296	1	Frauenthal, Mr. Isaac Gerald	male	43.0	1	0	17765	27.7208	D40	C
405	1297	2	Nourney, Mr. Alfred (Baron von Drachstedt")"	male	20.0	0	0	SC/PARIS 2166	13.8625	D38	C
406	1298	2	Ware, Mr. William Jeffery	male	23.0	1	0	28666	10.5000	NaN	S
407	1299	1	Widener, Mr. George Dunton	male	50.0	1	1	113503	211.5000	C80	C
408	1300	3	Riordan, Miss. Johanna Hannah""	female	NaN	0	0	334915	7.7208	NaN	Q
409	1301	3	Peacock, Miss. Treasteall	female	3.0	1	1	SOTON/O.Q. 3101315	13.7750	NaN	S
410	1302	3	Naughton, Miss. Hannah	female	NaN	0	0	365237	7.7500	NaN	Q
411	1303	1	Minahan, Mrs. William Edward (Lillian E Thorpe)	female	37.0	1	0	19928	90.0000	C78	Q
412	1304	3	Henriksson, Miss. Jenny Lovisa	female	28.0	0	0	347086	7.7750	NaN	S
413	1305	3	Spector, Mr. Woolf	male	NaN	0	0	A.5. 3236	8.0500	NaN	S
414	1306	1	Oliva y Ocana, Dona. Fermina	female	39.0	0	0	PC 17758	108.9000	C105	C
415	1307	3	Saether, Mr. Simon Sivertsen	male	38.5	0	0	SOTON/O.Q. 3101262	7.2500	NaN	S
416	1308	3	Ware, Mr. Frederick	male	NaN	0	0	359309	8.0500	NaN	S
417	1309	3	Peter, Master. Michael J	male	NaN	1	1	2668	22.3583	NaN	C

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 418 entries, 0 to 417
Data columns (total 11 columns):
 #   Column       Non-Null Count  Dtype
---  ------       --------------  -----
...
 9   Cabin        91 non-null     object
 10  Embarked     418 non-null    object
dtypes: float64(2), int64(4), object(5)
memory usage: 36.0+ KB
```

	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

	Name	Sex	Ticket	Cabin	Embarked
count	891	891	891	204	889
unique	891	2	681	147	3
top	Braund, Mr. Owen Harris	male	347082	B96 B98	S
freq	1	577	7	4	644

```
<bound method DataFrame.sort_values of    Pclass  Survived
0       1  0.629630
1       2  0.472826
2       3  0.242363>
```

```
<bound method DataFrame.sort_values of      Sex  Survived
0  female  0.742038
1    male  0.188908>
```

```
<bound method DataFrame.sort_values of    Parch  Survived
0      0  0.343658
1      1  0.550847
2      2  0.500000
3      3  0.600000
4      4  0.000000
5      5  0.200000
6      6  0.000000>
```

```
<bound method DataFrame.sort_values of   SibSp  Survived
0      0  0.345395
1      1  0.535885
2      2  0.464286
3      3  0.250000
4      4  0.166667
5      5  0.000000
8      8  0.000000>
```