Titanic

July 5, 2023

```python
[1]: import pandas as pd
```

```python
[2]: titanic=pd.read_csv("titanic.csv")
```

```python
[3]: titanic
```

```
[3]:      PassengerId  Survived  Pclass  \
     0              1         0       3
     1              2         1       1
     2              3         1       3
     3              4         1       1
     4              5         0       3
     ..           ...       ...     ...
     886          887         0       2
     887          888         1       1
     888          889         0       3
     889          890         1       1
     890          891         0       3

                                                    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
     ..                                               ...     ...   ...    ...
     886                            Montvila, Rev. Juozas    male  27.0      0
     887                     Graham, Miss. Margaret Edith  female  19.0      0
     888         Johnston, Miss. Catherine Helen "Carrie"  female   NaN      1
     889                             Behr, Mr. Karl Howell    male  26.0      0
     890                               Dooley, Mr. Patrick    male  32.0      0

          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
```

```
..      …                  …       …    …      …
886     0          211536  13.0000   NaN      S
887     0          112053  30.0000   B42      S
888     2    W./C. 6607  23.4500   NaN      S
889     0          111369  30.0000   C148     C
890     0          370376   7.7500   NaN      Q

[891 rows x 12 columns]
```

```
[4]: titanic["Age"].mean()
```

```
[4]: 29.69911764705882
```

```
[5]: titanic[["Age","Fare"]].median()
```

```
[5]: Age      28.0000
     Fare     14.4542
     dtype: float64
```

```
[6]: titanic[["Age","Fare"]].describe()
```

```
[6]:              Age          Fare
     count  714.000000  891.000000
     mean    29.699118   32.204208
     std     14.526497   49.693429
     min      0.420000    0.000000
     25%     20.125000    7.910400
     50%     28.000000   14.454200
     75%     38.000000   31.000000
     max     80.000000  512.329200
```

```
[7]: titanic.agg(
     {
         "Age":["min","max","median","skew"],
         "Fare":["min","max","median","skew"],
     })
```

```
[7]:              Age          Fare
     min       0.420000    0.000000
     max      80.000000  512.329200
     median   28.000000   14.454200
     skew      0.389108    4.787317
```

```
[8]: titanic[["Age","Sex"]].groupby("Sex").mean()
```

```
[8]:                Age
     Sex
     female    27.915709
```

```
male      30.726645
```

[9]:
```python
titanic.groupby("Sex").mean()
```

[9]:
	PassengerId	Survived	Pclass	Age	SibSp	Parch \
Sex						
female	431.028662	0.742038	2.159236	27.915709	0.694268	0.649682
male	454.147314	0.188908	2.389948	30.726645	0.429809	0.235702

	Fare
Sex	
female	44.479818
male	25.523893

[10]:
```python
titanic.groupby("Sex")["Age"].mean()
```

[10]:
```
Sex
female    27.915709
male      30.726645
Name: Age, dtype: float64
```

[11]:
```python
titanic.groupby(["Sex","Pclass"])["Fare"].mean()
```

[11]:
```
Sex     Pclass
female  1         106.125798
        2          21.970121
        3          16.118810
male    1          67.226127
        2          19.741782
        3          12.661633
Name: Fare, dtype: float64
```

[12]:
```python
titanic["Pclass"].value_counts()
```

[12]:
```
3    491
1    216
2    184
Name: Pclass, dtype: int64
```

[13]:
```python
titanic.sort_values(by="Age").head()
```

[13]:
	PassengerId	Survived	Pclass	Name	Sex \
803	804	1	3	Thomas, Master. Assad Alexander	male
755	756	1	2	Hamalainen, Master. Viljo	male
644	645	1	3	Baclini, Miss. Eugenie	female
469	470	1	3	Baclini, Miss. Helene Barbara	female
78	79	1	2	Caldwell, Master. Alden Gates	male

```
        Age  SibSp  Parch  Ticket      Fare Cabin Embarked
803    0.42      0      1    2625    8.5167   NaN        C
755    0.67      1      1  250649   14.5000   NaN        S
644    0.75      2      1    2666   19.2583   NaN        C
469    0.75      2      1    2666   19.2583   NaN        C
78     0.83      0      2  248738   29.0000   NaN        S
```

[14]: `titanic.sort_values(by=['Pclass','Age'],ascending=False).head()`

[14]:
```
     PassengerId  Survived  Pclass                         Name     Sex   Age  \
851          852         0       3       Svensson, Mr. Johan      male  74.0
116          117         0       3      Connors, Mr. Patrick      male  70.5
280          281         0       3         Duane, Mr. Frank      male  65.0
483          484         1       3     Turkula, Mrs. (Hedwig)  female  63.0
326          327         0       3  Nysveen, Mr. Johan Hansen    male  61.0

     SibSp  Parch  Ticket      Fare Cabin Embarked
851      0      0  347060   7.7750   NaN        S
116      0      0  370369   7.7500   NaN        Q
280      0      0  336439   7.7500   NaN        Q
483      0      0    4134   9.5875   NaN        S
326      0      0  345364   6.2375   NaN        S
```

[ ]: