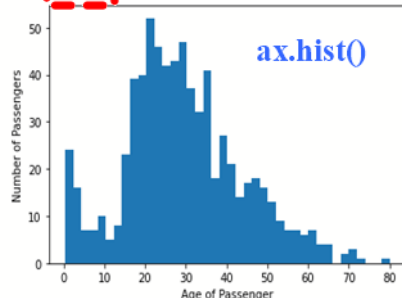


## DataFrame

|   | Survived | Pclass | Sex    | Age  | Fare    |
|---|----------|--------|--------|------|---------|
| 0 | 0        | 3      | male   | 22.0 | 7.2500  |
| 1 | 1        | 1      | female | 38.0 | 71.2833 |
| 2 | 1        | 3      | female | 26.0 | 7.9250  |
| 3 | 1        | 1      | female | 35.0 | 53.1000 |
| 4 | 0        | 3      | male   | 35.0 | 8.0500  |
| 5 | 0        | 3      | male   | NaN  | 8.4583  |
| 6 | 0        | 1      | r      |      |         |
| 7 | 0        | 3      | r      |      |         |



## Number of Records for:

|      | Survived | Pclass | Sex | Fare |
|------|----------|--------|-----|------|
| Age  |          |        |     |      |
| 20.0 | 15       | 15     | 15  | 15   |
| 20.5 | 1        | 1      | 1   | 1    |
| 21.0 | 24       | 24     | 24  | 24   |
| 22.0 | 27       | 27     | 27  | 27   |
| 23.0 | 15       | 15     | 15  | 15   |
| 23.5 | 1        | 1      | 1   | 1    |
| 24.0 | 30       | 30     | 30  | 30   |
| 24.5 | 1        | 1      | 1   | 1    |

`.groupby(['Age']).count()`

`.groupby(['Age']).mean()`

## Average Value of Records for:

|      | Survived | Pclass   | Fare      |
|------|----------|----------|-----------|
| Age  |          |          |           |
| 20.0 | 0.200000 | 3.000000 | 8.624173  |
| 20.5 | 0.000000 | 3.000000 | 7.250000  |
| 21.0 | 0.208333 | 2.583333 | 31.565621 |
| 22.0 | 0.407407 | 2.555556 | 25.504781 |
| 23.0 | 0.333333 | 2.133333 | 37.994720 |
| 23.5 | 0.000000 | 3.000000 | 7.229200  |
| 24.0 | 0.500000 | 2.200000 | 43.035690 |
| 24.5 | 0.000000 | 3.000000 | 8.050000  |
| 25.0 | 0.260870 | 2.434783 | 24.415765 |

Now add another groupby column: 'Age' & 'Sex'

`groupby(['Age','Sex']).count()`

## Number of Records for:

|      |        | Survived | Pclass | Fare |
|------|--------|----------|--------|------|
| Age  | Sex    |          |        |      |
| 20.0 | female | 2        | 2      | 2    |
|      | male   | 13       | 13     | 13   |
| 20.5 | male   | 1        | 1      | 1    |
| 21.0 | female | 7        | 7      | 7    |
|      | male   | 17       | 17     | 17   |
| 22.0 | female | 12       | 12     | 12   |
|      | male   | 15       | 15     | 15   |
| 23.0 | female | 5        | 5      | 5    |
|      | male   | 10       | 10     | 10   |

`unstack()`

same information but in column form for plotting

|      | Survived |      | Pclass |      | Fare   |      |      |
|------|----------|------|--------|------|--------|------|------|
| Sex  | female   | male | female | male | female | male |      |
| Age  | 20.0     | 2.0  | 13.0   | 2.0  | 13.0   | 2.0  | 13.0 |
| 20.5 | NaN      | 1.0  | NaN    | 1.0  | NaN    | 1.0  |      |
| 21.0 | 7.0      | 17.0 | 7.0    | 17.0 | 7.0    | 17.0 |      |
| 22.0 | 12.0     | 15.0 | 12.0   | 15.0 | 12.0   | 15.0 |      |
| 23.0 | 5.0      | 10.0 | 5.0    | 10.0 | 5.0    | 10.0 |      |

`.loc[:, 'Fare'].loc[:, 'female']`  
`.loc[:, 'Fare'].loc[:, 'male']`

