import pandas as pd
file\_path = "/content/titanic.csv"

## ${\tt df=pd.read\_csv('\underline{/content/titanic.csv}')}$

## df.describe()

| <b>→</b> |       | 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 |

## df.head()

| ₹ |   | PassengerId | Survived | Pclass | Name  | Sex    | Age  | SibSp | Parch | Ticket              | Fare    | Cabin | Embarked |
|---|---|-------------|----------|--------|---|--------|------|-------|-------|---------------------|---------|-------|----------|
|   | 0 | 1           | 0        | 3      | Braund, Mr. Owen Harris                           | male   | 22.0 | 1     | 0     | A/5 21171           | 7.2500  | NaN   | S        |
|   | 1 | 2           | 1        | 1      | Cumings, Mrs. John Bradley<br>(Florence Briggs Th | female | 38.0 | 1     | 0     | PC 17599            | 71.2833 | C85   | С        |
|   | 2 | 3           | 1        | 3      | Heikkinen, Miss. Laina                            | female | 26.0 | 0     | 0     | STON/O2.<br>3101282 | 7.9250  | NaN   | S        |
|   | 3 | 4           | 1        | 1      | Futrelle, Mrs. Jacques Heath (Lily May Peel)      | female | 35.0 | 1     | 0     | 113803              | 53.1000 | C123  | S        |
|   | 4 | 5           | 0        | 3      | Allen, Mr. William Henry                          | male   | 35.0 | 0     | 0     | 373450              | 8.0500  | NaN   | S        |

## df['Age']

```
Age
0 22.0
1 38.0
2 26.0
3 35.0
4 35.0
...
886 27.0
887 19.0
888 NaN
889 26.0
890 32.0
891 rows × 1 columns
```

df['Age'].mean()

→ 29.69911764705882

df['Age'].median()

<del>\_\_\_\_</del> 28.0

df['Age'].mode()

```
Age
0 24.0
```

dtype: float64

df['Age'].fillna(df['Age'].mean())

```
Age

0 22.000000

1 38.000000

2 26.000000

3 35.000000

4 35.000000

...

886 27.000000

887 19.000000

888 29.699118

889 26.000000

890 32.000000
```

891 rows × 1 columns dtype: float64

df['Age'].fillna(df['Age'].mean(),inplace=True)

df['Age'].isna()



3 False4 False...

886 False887 False888 True

889 False890 False

891 rows × 1 columns

dtype: bool

df.dropna(inplace=True)

df

| <del>_</del> | PassengerId | Survived | Pclass | Name   | Sex    | Age       | SibSp | Parch | Ticket              | Fare    | Cabin | Embarked    |
|--------------|-------------|----------|--------|--|--------|-----------|-------|-------|---------------------|---------|-------|-------------|
| 0            | 1           | 0        | 3      | Braund, Mr. Owen Harris                              | male   | 22.000000 | 1     | 0     | A/5 21171           | 7.2500  | NaN   | S           |
| 1            | 2           | 1        | 1      | Cumings, Mrs. John<br>Bradley (Florence Briggs<br>Th | female | 38.000000 | 1     | 0     | PC 17599            | 71.2833 | C85   | С           |
| 2            | 3           | 1        | 3      | Heikkinen, Miss. Laina                               | female | 26.000000 | 0     | 0     | STON/O2.<br>3101282 | 7.9250  | NaN   | S           |
| 3            | 4           | 1        | 1      | Futrelle, Mrs. Jacques<br>Heath (Lily May Peel)      | female | 35.000000 | 1     | 0     | 113803              | 53.1000 | C123  | S           |
| 4            | 5           | 0        | 3      | Allen, Mr. William Henry                             | male   | 35.000000 | 0     | 0     | 373450              | 8.0500  | NaN   | S           |
|              |             |          |        |  |        |           |       |       |                     |         |       |             |
| 886          | 887         | 0        | 2      | Montvila, Rev. Juozas                                | male   | 27.000000 | 0     | 0     | 211536              | 13.0000 | NaN   | S           |
| 887          | 888         | 1        | 1      | Graham, Miss. Margaret<br>Edith                      | female | 19.000000 | 0     | 0     | 112053              | 30.0000 | B42   | S           |
| 888          | 889         | 0        | 3      | Johnston, Miss. Catherine<br>Helen "Carrie"          | female | 29.699118 | 1     | 2     | W./C. 6607          | 23.4500 | NaN   | S           |
| 889          | 890         | 1        | 1      | Behr, Mr. Karl Howell                                | male   | 26.000000 | 0     | 0     | 111369              | 30.0000 | C148  | С           |
| 4            |             |          |        |  |        |           |       |       |                     |         |       | <b>&gt;</b> |

df['Age'].max()

₹ 80.0

df['Age'].astype(int)

|     | Age |
|-----|-----|
| 1   | 38  |
| 3   | 35  |
| 6   | 54  |
| 10  | 4   |
| 11  | 58  |
|     |     |
| 871 | 47  |
| 872 | 33  |
| 879 | 56  |
| 887 | 19  |
| 889 | 26  |
| 000 |     |

202 rows × 1 columns

dtype: int64

df['Age']=(df['Age']-df['Age'].min())//(df['Age'].max() -df['Age'].min())

df['Age']



- Age 1 0.0
- **3** 0.0
- 6 0.0
- **10** 0.0