# Introduction to Pandas Library Function:

## Step-1 Import the pandas Libraries

```
import pandas as p1
```

## Step-2 Import the dataset from this:....

```
data = ("titanic.csv")
```

## Step-3 Read csv or excel File

```
df = p1.read_csv(data)
```

# Step-4 Print Data from csv or excel File

```
df
```

```
                                                 Name     Sex   Age
SibSp  \
                                Braund, Mr. Owen Harris    male  22.0

    Cumings, Mrs. John Bradley (Florence Briggs Th...  female  38.0

                                 Heikkinen, Miss. Laina  female  26.0
     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
0
1
1
1
2
```

```
                                                    Futrelle, Mrs. Jacques Heath (Lily May Peel)  female  35.0
                                                                                 Allen, Mr. William Henry    male  35.0
..                                                                                                  ...     ...   ...
..
886                                                                            Montvila, Rev. Juozas    male  27.0
887                                                                 Graham, Miss. Margaret Edith  female  19.0
888                                                      Johnston, Miss. Catherine Helen "Carrie"  female   NaN
889                                                                            Behr, Mr. Karl Howell    male  26.0
890                                                                              Dooley, Mr. Patrick    male  32.0

0
3
1
4
0



0

0

1

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]
```

# Step-5 See the First 10 Rows

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

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

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

   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
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
```

# Step-6 See the Last 10 Rows

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

```
     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
Embarke
381    male  33.0      0      0            349257   7.8958   NaN
                                                              S
382  female  22.0      0      0              7552  10.5167   NaN S
383    male  28.0      0      0  C.A./SOTON 34068  10.5000   NaN S
                                                              S
384    male  25.0      0      0   SOTON/OQ 392076   7.0500   NaN
                                                              Q
385  female  39.0      0      5            382652  29.1250   NaN S
386    male  27.0      0      0            211536  13.0000   NaN S
                                                              S
387  female  19.0      0      0            112053  30.0000   B42
                                                              C
388  female   NaN      1      2        W./C. 6607  23.4500   NaN
                                                              Q
389    male  26.0      0      0            111369  30.0000  C148

390    male  32.0      0      0            370376   7.7500   NaN
```

# Step-7 Data type of each columns

```
df.dtypes
PassengerId      int64
Survived         int64
Pclass           int64
Name            object
Sex             object
Age            float64


SibSp            int64
Parch            int64
Ticket          object
Fare           float64
Cabin           object
Embarked        object
dtype: object
```

# Step-8 Display Summary Information

```
df.info()

<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
```

# Step-9 Access a specific column

```
df["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
Name: Age, Length: 891, dtype: float64
```

# Step-10 Access rows by their integer location

```
df.iloc[1]
```

```
PassengerId                                                 2
Survived                                                    1
Pclass                                                      1
Name           Cumings, Mrs. John Bradley (Florence Briggs Th...
Sex                                                    female
Age                                                      38.0
SibSp                                                       1
Parch                                                       0
Ticket                                              PC 17599
Fare                                                 71.2833
Cabin                                                    C85
Embarked                                                   C
Name: 1, dtype: object
```

# Step-11 Delete a specific Column

```
df1 = df.drop(columns = ["Parch"])
df1

df2 = df.drop(index = 0)
df2
```

```
                                                 Name      Sex    Age
SibSp  \
     Cumings, Mrs. John Bradley (Florence Briggs Th...  female  38.0

     PassengerId  Survived  Pclass  \
1     2          1        1
2     3          1        3
3     4          1        1
4     5          0        3
5     6        0      3..          ...
...      ...
886           887          0        2
887           888          1        1
888           889          0        3
889           890          1        1
890           891          0        3
1
1
```

```
                                  Heikkinen, Miss. Laina  female  26.0

            Futrelle, Mrs. Jacques Heath (Lily May Peel)  female  35.0

                                Allen, Mr. William Henry    male  35.0

                                       Moran, Mr. James    male   NaN

..                                                   ...     ...   ...
..
386                               Montvila, Rev. Juozas    male  27.0

387                         Graham, Miss. Margaret Edith  female  19.0

388             Johnston, Miss. Catherine Helen "Carrie"  female   NaN

389                               Behr, Mr. Karl Howell    male  26.0

390                                 Dooley, Mr. Patrick    male  32.0

2
0
3
1
4
0
5
0



0

0

1

0

0
```

```
     Parch            Ticket     Fare Cabin Embarked
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
..     ...               ...      ...   ...      ...
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
[890 rows x 12 columns]
```

# Step-12 Create a new Column

```
df["Fare2"] = "Lab 1.ipynb"
df
```

```
     PassengerId  Survived  Pclass  \
0     1          0       3
1     2          1       1
2     3          1       3
3     4          1       1
4     5       0     3..         ...
...     ...
```

```
                                                    Name     Sex   Age
SibSp  \
                                Braund, Mr. Owen Harris    male  22.0
    Cumings, Mrs. John Bradley (Florence Briggs Th...  female  38.0
                                Heikkinen, Miss. Laina  female  26.0
          Futrelle, Mrs. Jacques Heath (Lily May Peel)  female  35.0
                               Allen, Mr. William Henry    male  35.0
..                                                  ...     ...   ...
..
386                            Montvila, Rev. Juozas    male  27.0
387                     Graham, Miss. Margaret Edith  female  19.0
388         Johnston, Miss. Catherine Helen "Carrie"  female   NaN
389                            Behr, Mr. Karl Howell    male  26.0
390                              Dooley, Mr. Patrick    male  32.0

886          887         0       2
887          888         1       1
888          889         0       3
889          890         1       1
890          891         0       3
0
1
1
1
2
0
3
1
4
0



0
```

```
0

1

0

0
     Parch            Ticket     Fare Cabin Embarked        Fare2
0        0         A/5 21171   7.2500   NaN        S  Lab 1.ipynb
1        0          PC 17599  71.2833   C85        C  Lab 1.ipynb
2        0  STON/O2. 3101282   7.9250   NaN        S  Lab 1.ipynb
3        0            113803  53.1000  C123        S  Lab 1.ipynb
4        0            373450   8.0500   NaN        S  Lab 1.ipynb
..     ...               ...      ...   ...      ...          ...
886      0            211536  13.0000   NaN        S  Lab 1.ipynb
887      0            112053  30.0000   B42        S  Lab 1.ipynb
888      2        W./C. 6607  23.4500   NaN        S  Lab 1.ipynb
889      0            111369  30.0000  C148        C  Lab 1.ipynb
890      0            370376   7.7500   NaN        Q  Lab 1.ipynb
[891 rows x 13 columns]
```

# Step-13 Perform Condition Selection on

# DataFrame

```
df[df['Sex']=='male']
```

```
     PassengerId  Survived  Pclass                                Name
Sex  \
0              1         0       3          Braund, Mr. Owen Harris
male
4              5         0       3         Allen, Mr. William Henry
male
5              6         0       3                 Moran, Mr. James
male
6              7         0       1          McCarthy, Mr. Timothy J
male
7              8         0       3   Palsson, Master. Gosta Leonard
male   ..           ...       ...      ...
...   . ..
883          884         0       2    Banfield, Mr. Frederick James
male
884          885         0       3           Sutehall, Mr. Henry Jr
male
886          887         0       2            Montvila, Rev. Juozas
male
889          890         1       1             Behr, Mr. Karl Howell
male
890          891         0       3               Dooley, Mr. Patrick
             male

      Age  SibSp  Parch             Ticket     Fare Cabin Embarked
Fare2
0    22.0      1      0          A/5 21171   7.2500   NaN        S  Lab
1.ipynb
4     35.0      0      0             373450   8.0500   NaN        S
      Lab
1.ipynb
5     NaN       0      0             330877   8.4583   NaN        Q  Lab
1.ipynb
6     54.0      0      0              17463  51.8625   E46        S
      Lab
1.ipynb
7     2.0       3      1             349909  21.0750   NaN        S  Lab
1.ipynb
..    ...     ...    ...                ...      ...   ...      ...
...
883  28.0       0      0  C.A./SOTON 34068  10.5000   NaN        S  Lab
1.ipynb
884  25.0       0      0   SOTON/OQ 392076   7.0500   NaN        S  Lab
     1.ipynb
```

```
886  27.0      0      0            211536  13.0000   NaN        S  Lab
1.ipyn
889  26.0      0      0            111369  30.0000  C148        C  Lab
1.ipyn
890  32.0      0      0            370376   7.7500   NaN        Q  Lab
1.ipyn
[577 rows x 13 columns]
```

# Step-14 Compute the sum of value

```
df.Age.sum()

21205.17
```

# Step-15 Compute the mean of value

```
df.Age.mean()

29.69911764705882
```

# Step-16 Count non-null value (column)

```
df.Age.count()

714
```

# Step-17 Find Minimun or Maximum values

```
df.Age.min()

df.Age.max()
```