



```
In [4]: import pandas as pd
df=pd.read_csv("titanic (2).csv")
```

```
In [5]: df
```

```
Out[5]:
```

	PassengerId	Survived	Pclass	Name	Sex	Age	SibSp	Parch	Ticket
0	1	0	3	Braund, Mr. Owen Harris	male	22.0	1	0	211
1	2	1	1	Cumings, Mrs. John Bradley (Florence Briggs Th...	female	38.0	1	0	175
2	3	1	3	Heikkinen, Miss. Laina	female	26.0	0	0	STC 31012
3	4	1	1	Futrelle, Mrs. Jacques Heath (Lily May Peel)	female	35.0	1	0	1138
4	5	0	3	Allen, Mr. William Henry	male	35.0	0	0	3734
...	...	...	...	...	...	...	...	...	...
886	887	0	2	Montvila, Rev. Juozas	male	27.0	0	0	2115
887	888	1	1	Graham, Miss. Margaret Edith	female	19.0	0	0	1120
888	889	0	3	Johnston, Miss. Catherine Helen "Carrie"	female	NaN	1	2	W 66
889	890	1	1	Behr, Mr. Karl Howell	male	26.0	0	0	1113
890	891	0	3	Dooley, Mr. Patrick	male	32.0	0	0	3703

891 rows × 12 columns

```
In [6]: df.columns
```

```
Out[6]: Index(['PassengerId', 'Survived', 'Pclass', 'Name', 'Sex', 'Age', 'SibSp',  
              'Parch', 'Ticket', 'Fare', 'Cabin', 'Embarked'],  
              dtype='object')
```

```
In [7]: a=df["Name"][0:10]  
print(a)  
type(a)
```

```
0      Braund, Mr. Owen Harris  
1  Cumings, Mrs. John Bradley (Florence Briggs Th...  
2      Heikkinen, Miss. Laina  
3  Futrelle, Mrs. Jacques Heath (Lily May Peel)  
4      Allen, Mr. William Henry  
5      Moran, Mr. James  
6      McCarthy, Mr. Timothy J  
7      Palsson, Master. Gosta Leonard  
8  Johnson, Mrs. Oscar W (Elisabeth Vilhelmina Berg)  
9      Nasser, Mrs. Nicholas (Adele Achem)  
Name: Name, dtype: object
```

```
Out[7]: pandas.core.series.Series
```

```
In [8]: df.insert(loc= 3 ,column="Owner_",value="Lovely Dehar")
```

```
In [9]: df
```

Out[9]:

	PassengerId	Survived	Pclass	Owner_	Name	Sex	Age	SibSp	Par
--	-------------	----------	--------	--------	------	-----	-----	-------	-----

0	1	0	3	Lovely Dehar	Braund, Mr. Owen Harris	male	22.0	1	
1	2	1	1	Lovely Dehar	Cumings, Mrs. John Bradley (Florence Briggs Th...	female	38.0	1	
2	3	1	3	Lovely Dehar	Heikkinen, Miss. Laina	female	26.0	0	
3	4	1	1	Lovely Dehar	Futrelle, Mrs. Jacques Heath (Lily May Peel)	female	35.0	1	
4	5	0	3	Lovely Dehar	Allen, Mr. William Henry	male	35.0	0	
...	...	...	...	...	...	...	...	...	
886	887	0	2	Lovely Dehar	Montvila, Rev. Juozas	male	27.0	0	
887	888	1	1	Lovely Dehar	Graham, Miss. Margaret Edith	female	19.0	0	
888	889	0	3	Lovely Dehar	Johnston, Miss. Catherine Helen "Carrie"	female	NaN	1	
889	890	1	1	Lovely Dehar	Behr, Mr. Karl Howell	male	26.0	0	
890	891	0	3	Lovely Dehar	Dooley, Mr. Patrick	male	32.0	0	

891 rows × 13 columns

```
In [10]: l=["lovely","a","b","c","d","e","f","g","h","i"]
```

```
In [11]: pd.Series(a,index=l)
```

```
Out[11]: lovely      NaN
          a           NaN
          b           NaN
          c           NaN
          d           NaN
          e           NaN
          f           NaN
          g           NaN
          h           NaN
          i           NaN
          Name: Name, dtype: object
```

```
In [12]: pd.Series(list(a), index=l)
```

```
Out[12]: lovely      Braund, Mr. Owen Harris
          a      Cumings, Mrs. John Bradley (Florence Briggs Th...
          b      Heikkinen, Miss. Laina
          c      Futrelle, Mrs. Jacques Heath (Lily May Peel)
          d      Allen, Mr. William Henry
          e      Moran, Mr. James
          f      McCarthy, Mr. Timothy J
          g      Palsson, Master. Gosta Leonard
          h      Johnson, Mrs. Oscar W (Elisabeth Vilhelmina Berg)
          i      Nasser, Mrs. Nicholas (Adele Achem)
          dtype: object
```

```
In [13]: m1=pd.Series([100,200,400,300,500], index=[1,2,3,4,5])
```

```
In [14]: m1
```

```
Out[14]: 1    100
          2    200
          3    400
          4    300
          5    500
          dtype: int64
```

```
In [15]: m2=pd.Series([600,700,800,900,1000], index=[1,2,3,4,5])
```

```
In [16]: m2
```

```
Out[16]: 1    600
          2    700
          3    800
          4    900
          5   1000
          dtype: int64
```

```
In [17]: m3=pd.concat([m1,m2])
          m3
```

```
Out[17]: 1    100
         2    200
         3    400
         4    300
         5    500
         1    600
         2    700
         3    800
         4    900
         5   1000
         dtype: int64
```

```
In [18]: m3[2]
```

```
Out[18]: 2    200
         2    700
         dtype: int64
```

```
In [19]: m4=m1*m2
```

```
In [20]: m4
```

```
Out[20]: 1    60000
         2   140000
         3   320000
         4   270000
         5   500000
         dtype: int64
```

```
In [21]: m1+m2
```

```
Out[21]: 1    700
         2    900
         3   1200
         4   1200
         5   1500
         dtype: int64
```

```
In [22]: df.head(10)
```

Out[22]:	PassengerId	Survived	Pclass	Owner_	Name	Sex	Age	SibSp	Parch
0	1	0	3	Lovely Dehar	Braund, Mr. Owen Harris	male	22.0	1	0
1	2	1	1	Lovely Dehar	Cumings, Mrs. John Bradley (Florence Briggs Th...	female	38.0	1	0
2	3	1	3	Lovely Dehar	Heikkinen, Miss. Laina	female	26.0	0	0
3	4	1	1	Lovely Dehar	Futrelle, Mrs. Jacques Heath (Lily May Peel)	female	35.0	1	0
4	5	0	3	Lovely Dehar	Allen, Mr. William Henry	male	35.0	0	0
5	6	0	3	Lovely Dehar	Moran, Mr. James	male	NaN	0	0
6	7	0	1	Lovely Dehar	McCarthy, Mr. Timothy J	male	54.0	0	0
7	8	0	3	Lovely Dehar	Palsson, Master. Gosta Leonard	male	2.0	3	1
8	9	1	3	Lovely Dehar	Johnson, Mrs. Oscar W (Elisabeth Vilhelmina Berg)	female	27.0	0	2
9	10	1	2	Lovely Dehar	Nasser, Mrs. Nicholas (Adele Achem)	female	14.0	1	0

```
In [23]: df.drop("Owner_",axis=1)
```

Out[23]:

	PassengerId	Survived	Pclass	Name	Sex	Age	SibSp	Parch	Ticket
--	-------------	----------	--------	------	-----	-----	-------	-------	--------

0	1	0	3	Braund, Mr. Owen Harris	male	22.0	1	0	210151
1	2	1	1	Cumings, Mrs. John Bradley (Florence Briggs Th...)	female	38.0	1	0	17566
2	3	1	3	Heikkinen, Miss. Laina	female	26.0	0	0	STON/OJ 310129
3	4	1	1	Futrelle, Mrs. Jacques Heath (Lily May Peel)	female	35.0	1	0	113803
4	5	0	3	Allen, Mr. William Henry	male	35.0	0	0	373451
...	...	...	...	...	...	...	...	...	...
886	887	0	2	Montvila, Rev. Juozas	male	27.0	0	0	211536
887	888	1	1	Graham, Miss. Margaret Edith	female	19.0	0	0	112042
888	889	0	3	Johnston, Miss. Catherine Helen "Carrie"	female	NaN	1	2	W/ 6616
889	890	1	1	Behr, Mr. Karl Howell	male	26.0	0	0	111369
890	891	0	3	Dooley, Mr. Patrick	male	32.0	0	0	370375

891 rows × 12 columns

In [24]: df

Out[24]:	PassengerId	Survived	Pclass	Owner_	Name	Sex	Age	SibSp	Par
0	1	0	3	Lovely Dehar	Braund, Mr. Owen Harris	male	22.0	1	
1	2	1	1	Lovely Dehar	Cumings, Mrs. John Bradley (Florence Briggs Th...	female	38.0	1	
2	3	1	3	Lovely Dehar	Heikkinen, Miss. Laina	female	26.0	0	
3	4	1	1	Lovely Dehar	Futrelle, Mrs. Jacques Heath (Lily May Peel)	female	35.0	1	
4	5	0	3	Lovely Dehar	Allen, Mr. William Henry	male	35.0	0	
...	...	...	...	...	...	...	...	...	...
886	887	0	2	Lovely Dehar	Montvila, Rev. Juozas	male	27.0	0	
887	888	1	1	Lovely Dehar	Graham, Miss. Margaret Edith	female	19.0	0	
888	889	0	3	Lovely Dehar	Johnston, Miss. Catherine Helen "Carrie"	female	NaN	1	
889	890	1	1	Lovely Dehar	Behr, Mr. Karl Howell	male	26.0	0	
890	891	0	3	Lovely Dehar	Dooley, Mr. Patrick	male	32.0	0	

891 rows × 13 columns

```
In [25]: df.drop("Owner_",axis=1, inplace=True)
```

```
In [26]: df
```

Out[26]:

	PassengerId	Survived	Pclass	Name	Sex	Age	SibSp	Parch	Ticket
0	1	0	3	Braund, Mr. Owen Harris	male	22.0	1	0	211506343
1	2	1	1	Cumings, Mrs. John Bradley (Florence Briggs Th...)	female	38.0	1	0	17597
2	3	1	3	Heikkinen, Miss. Laina	female	26.0	0	0	STON/OJ 3101282
3	4	1	1	Futrelle, Mrs. Jacques Heath (Lily May Peel)	female	35.0	1	0	113803
4	5	0	3	Allen, Mr. William Henry	male	35.0	0	0	373451
...	...	...	...	...	...	...	...	...	...
886	887	0	2	Montvila, Rev. Juozas	male	27.0	0	0	211506343
887	888	1	1	Graham, Miss. Margaret Edith	female	19.0	0	0	112052
888	889	0	3	Johnston, Miss. Catherine Helen "Carrie"	female	NaN	1	2	W 661536
889	890	1	1	Behr, Mr. Karl Howell	male	26.0	0	0	111369
890	891	0	3	Dooley, Mr. Patrick	male	32.0	0	0	370376

891 rows × 12 columns

In [27]: `df.drop(3)`

Out[27]:

	PassengerId	Survived	Pclass	Name	Sex	Age	SibSp	Parch	Ticket
0	1	0	3	Braund, Mr. Owen Harris	male	22.0	1	0	211536
1	2	1	1	Cumings, Mrs. John Bradley (Florence Briggs Th...)	female	38.0	1	0	17564
2	3	1	3	Heikkinen, Miss. Laina	female	26.0	0	0	STON/OJ 310128
4	5	0	3	Allen, Mr. William Henry	male	35.0	0	0	373451
5	6	0	3	Moran, Mr. James	male	NaN	0	0	330814
...	...	...	...	...	...	...	...	...	...
886	887	0	2	Montvila, Rev. Juozas	male	27.0	0	0	211536
887	888	1	1	Graham, Miss. Margaret Edith	female	19.0	0	0	112052
888	889	0	3	Johnston, Miss. Catherine Helen "Carrie"	female	NaN	1	2	W/ 6616
889	890	1	1	Behr, Mr. Karl Howell	male	26.0	0	0	111351
890	891	0	3	Dooley, Mr. Patrick	male	32.0	0	0	370376

890 rows × 12 columns

In [28]:

df

```
Out[28]:
```

	PassengerId	Survived	Pclass	Name	Sex	Age	SibSp	Parch	Ticket
0	1	0	3	Braund, Mr. Owen Harris	male	22.0	1	0	210151
1	2	1	1	Cumings, Mrs. John Bradley (Florence Briggs Th...)	female	38.0	1	0	17566
2	3	1	3	Heikkinen, Miss. Laina	female	26.0	0	0	STON/OJ 310129
3	4	1	1	Futrelle, Mrs. Jacques Heath (Lily May Peel)	female	35.0	1	0	113803
4	5	0	3	Allen, Mr. William Henry	male	35.0	0	0	373451
...	...	...	...	...	...	...	...	...	...
886	887	0	2	Montvila, Rev. Juozas	male	27.0	0	0	211536
887	888	1	1	Graham, Miss. Margaret Edith	female	19.0	0	0	112052
888	889	0	3	Johnston, Miss. Catherine Helen "Carrie"	female	NaN	1	2	W 6616
889	890	1	1	Behr, Mr. Karl Howell	male	26.0	0	0	111369
890	891	0	3	Dooley, Mr. Patrick	male	32.0	0	0	370376

891 rows × 12 columns

```
In [29]: df.drop(3, inplace=True)
```

```
In [30]: df
```

Out[30]:

	PassengerId	Survived	Pclass	Name	Sex	Age	SibSp	Parch	Ticket
0	1	0	3	Braund, Mr. Owen Harris	male	22.0	1	0	210151
1	2	1	1	Cumings, Mrs. John Bradley (Florence Briggs Th...)	female	38.0	1	0	17566
2	3	1	3	Heikkinen, Miss. Laina	female	26.0	0	0	STON/OJ. 3101298
4	5	0	3	Allen, Mr. William Henry	male	35.0	0	0	373451
5	6	0	3	Moran, Mr. James	male	NaN	0	0	330814
...	...	...	...	...	...	...	...	...	...
886	887	0	2	Montvila, Rev. Juozas	male	27.0	0	0	211536
887	888	1	1	Graham, Miss. Margaret Edith	female	19.0	0	0	112052
888	889	0	3	Johnston, Miss. Catherine Helen "Carrie"	female	NaN	1	2	W/ 661634
889	890	1	1	Behr, Mr. Karl Howell	male	26.0	0	0	111369
890	891	0	3	Dooley, Mr. Patrick	male	32.0	0	0	370376

890 rows × 12 columns

Converting Coulmn into Index

In [35]:

```
df
```

Out[35]:

	PassengerId	Survived	Pclass	Name	Sex	Age	SibSp	Parch	Ticket
0	1	0	3	Braund, Mr. Owen Harris	male	22.0	1	0	211536
1	2	1	1	Cumings, Mrs. John Bradley (Florence Briggs Th...)	female	38.0	1	0	17557
2	3	1	3	Heikkinen, Miss. Laina	female	26.0	0	0	STON/OJ. 3101282
4	5	0	3	Allen, Mr. William Henry	male	35.0	0	0	373451
5	6	0	3	Moran, Mr. James	male	NaN	0	0	330814
...	...	...	...	...	...	...	...	...	...
886	887	0	2	Montvila, Rev. Juozas	male	27.0	0	0	211536
887	888	1	1	Graham, Miss. Margaret Edith	female	19.0	0	0	112052
888	889	0	3	Johnston, Miss. Catherine Helen "Carrie"	female	NaN	1	2	W/ 6616344
889	890	1	1	Behr, Mr. Karl Howell	male	26.0	0	0	111369
890	891	0	3	Dooley, Mr. Patrick	male	32.0	0	0	370371

890 rows × 12 columns

In [106... `df.reset_index()`

Out[106...

	Name	PassengerId	Survived	Pclass	Sex	Age	SibSp	Parch	Ticket
0	Braund, Mr. Owen Harris	1	0	3	male	22.0	1	0	211536
1	Cumings, Mrs. John Bradley (Florence Briggs Th...)	2	1	1	female	38.0	1	0	17557
2	Heikkinen, Miss. Laina	3	1	3	female	26.0	0	0	STON/OJ 310128
3	Allen, Mr. William Henry	5	0	3	male	35.0	0	0	373451
4	Moran, Mr. James	6	0	3	male	NaN	0	0	330814
...	...	...	...	...	...	...	...	...	...
885	Montvila, Rev. Juozas	887	0	2	male	27.0	0	0	211536
886	Graham, Miss. Margaret Edith	888	1	1	female	19.0	0	0	112052
887	Johnston, Miss. Catherine Helen "Carrie"	889	0	3	female	NaN	1	2	W/ 6616
888	Behr, Mr. Karl Howell	890	1	1	male	26.0	0	0	111351
889	Dooley, Mr. Patrick	891	0	3	male	32.0	0	0	370373

890 rows × 12 columns

In [109...

```
d={"key1": [1, 2, 3, 4, 5],
    "key2": [6, 7, 8, 9, 10],
    "key3": [11, 12, 13, 14, 15]}
print(d)
```

{'key1': [1, 2, 3, 4, 5], 'key2': [6, 7, 8, 9, 10], 'key3': [11, 12, 13, 14, 15]}

```
In [110]: pd.DataFrame(d)
```

```
Out[110]:
```

	key1	key2	key3
0	1	6	11
1	2	7	12
2	3	8	13
3	4	9	14
4	5	10	15

```
In [10]: df.dropna()
```

Out[10]:

	PassengerId	Survived	Pclass	Name	Sex	Age	SibSp	Parch	Ticket
1	2	1	1	Cumings, Mrs. John Bradley (Florence Briggs Th...	female	38.0	1	0	175
3	4	1	1	Futrelle, Mrs. Jacques Heath (Lily May Peel)	female	35.0	1	0	1138
6	7	0	1	McCarthy, Mr. Timothy J	male	54.0	0	0	174
10	11	1	3	Sandstrom, Miss. Marguerite Rut	female	4.0	1	1	95
11	12	1	1	Bonnell, Miss. Elizabeth	female	58.0	0	0	1137
...	...	...	...	...	...	...	...	...	...
871	872	1	1	Beckwith, Mrs. Richard Leonard (Sallie Monypeny)	female	47.0	1	1	117
872	873	0	1	Carlsson, Mr. Frans Olof	male	33.0	0	0	6
879	880	1	1	Potter, Mrs. Thomas Jr (Lily Alexenia Wilson)	female	56.0	0	1	117
887	888	1	1	Graham, Miss. Margaret Edith	female	19.0	0	0	1120
889	890	1	1	Behr, Mr. Karl Howell	male	26.0	0	0	1113

183 rows × 12 columns

DATA CLEANING

```
In [16]: df.dropna(inplace=True)
```

```
In [15]: df
```

```
Out[15]:
```

	PassengerId	Survived	Pclass	Name	Sex	Age	SibSp	Parch	Ticket
0	1	0	3	Braund, Mr. Owen Harris	male	22.0	1	0	211506343
1	2	1	1	Cumings, Mrs. John Bradley (Florence Briggs Th...)	female	38.0	1	0	17597
2	3	1	3	Heikkinen, Miss. Laina	female	26.0	0	0	STON/OJ. 3101282
3	4	1	1	Futrelle, Mrs. Jacques Heath (Lily May Peel)	female	35.0	1	0	113803
4	5	0	3	Allen, Mr. William Henry	male	35.0	0	0	373451
...	...	...	...	...	...	...	...	...	...
886	887	0	2	Montvila, Rev. Juozas	male	27.0	0	0	211506343
887	888	1	1	Graham, Miss. Margaret Edith	female	19.0	0	0	112052
888	889	0	3	Johnston, Miss. Catherine Helen "Carrie"	female	NaN	1	2	W/ 6616352
889	890	1	1	Behr, Mr. Karl Howell	male	26.0	0	0	111369
890	891	0	3	Dooley, Mr. Patrick	male	32.0	0	0	370376

891 rows × 12 columns

```
In [17]: df
```

Out[17]:

	PassengerId	Survived	Pclass	Name	Sex	Age	SibSp	Parch	Ticket	
	1	2	1	1	Cumings, Mrs. John Bradley (Florence Briggs Th...	female	38.0	1	0	175
	3	4	1	1	Futrelle, Mrs. Jacques Heath (Lily May Peel)	female	35.0	1	0	1138
	6	7	0	1	McCarthy, Mr. Timothy J	male	54.0	0	0	174
	10	11	1	3	Sandstrom, Miss. Marguerite Rut	female	4.0	1	1	95
	11	12	1	1	Bonnell, Miss. Elizabeth	female	58.0	0	0	1137
	...	...	...	...	...	...	...	...	...	
	871	872	1	1	Beckwith, Mrs. Richard Leonard (Sallie Monypeny)	female	47.0	1	1	117
	872	873	0	1	Carlsson, Mr. Frans Olof	male	33.0	0	0	6
	879	880	1	1	Potter, Mrs. Thomas Jr (Lily Alexenia Wilson)	female	56.0	0	1	117
	887	888	1	1	Graham, Miss. Margaret Edith	female	19.0	0	0	1120
	889	890	1	1	Behr, Mr. Karl Howell	male	26.0	0	0	1113

183 rows × 12 columns

In [18]: `df.dropna(axis=1)`

Out[18]:

	PassengerId	Survived	Pclass	Name	Sex	Age	SibSp	Parch	Ticket
1	2	1	1	Cumings, Mrs. John Bradley (Florence Briggs Th...	female	38.0	1	0	175
3	4	1	1	Futrelle, Mrs. Jacques Heath (Lily May Peel)	female	35.0	1	0	1138
6	7	0	1	McCarthy, Mr. Timothy J	male	54.0	0	0	174
10	11	1	3	Sandstrom, Miss. Marguerite Rut	female	4.0	1	1	95
11	12	1	1	Bonnell, Miss. Elizabeth	female	58.0	0	0	1137
...	...	...	...	...	...	...	...	...	...
871	872	1	1	Beckwith, Mrs. Richard Leonard (Sallie Monypeny)	female	47.0	1	1	117
872	873	0	1	Carlsson, Mr. Frans Olof	male	33.0	0	0	6
879	880	1	1	Potter, Mrs. Thomas Jr (Lily Alexenia Wilson)	female	56.0	0	1	117
887	888	1	1	Graham, Miss. Margaret Edith	female	19.0	0	0	1120
889	890	1	1	Behr, Mr. Karl Howell	male	26.0	0	0	1113

183 rows × 12 columns

replace NAN OR Missing Data

```
In [21]: df.fillna("Null", inplace=True)
```

```
In [22]: df
```

Out[22]:

	PassengerId	Survived	Pclass	Name	Sex	Age	SibSp	Parch	Tick
1	2	1	1	Cumings, Mrs. John Bradley (Florence Briggs Th...	female	38.0	1	0	175
3	4	1	1	Futrelle, Mrs. Jacques Heath (Lily May Peel)	female	35.0	1	0	1138
6	7	0	1	McCarthy, Mr. Timothy J	male	54.0	0	0	174
10	11	1	3	Sandstrom, Miss. Marguerite Rut	female	4.0	1	1	95
11	12	1	1	Bonnell, Miss. Elizabeth	female	58.0	0	0	1137
...	...	...	...	...	...	...	...	...	...
871	872	1	1	Beckwith, Mrs. Richard Leonard (Sallie Monypeny)	female	47.0	1	1	117
872	873	0	1	Carlsson, Mr. Frans Olof	male	33.0	0	0	6
879	880	1	1	Potter, Mrs. Thomas Jr (Lily Alexenia Wilson)	female	56.0	0	1	117
887	888	1	1	Graham, Miss. Margaret Edith	female	19.0	0	0	1120
889	890	1	1	Behr, Mr. Karl Howell	male	26.0	0	0	1113

183 rows × 12 columns

In []: