PANDAS PART - 4 BY VIRAT TIWARI

October 13, 2023

```
import pandas as pd
[4]: df=pd.read_csv("https://raw.githubusercontent.com/datasciencedojo/datasets/
      ⇔master/titanic.csv")
[5]: df
[5]:
          PassengerId
                        Survived
                                   Pclass
     0
                     1
                                0
                                         3
                     2
     1
                                1
                                         1
     2
                     3
                                1
                                         3
     3
                     4
                                1
                     5
                                0
     . .
     886
                   887
                                0
                                         2
     887
                   888
                                         1
                                1
                                0
                                         3
     888
                   889
                   890
     889
                                1
                                         1
     890
                   891
                                0
                                         3
                                                                     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
                                         Montvila, Rev. Juozas
     886
                                                                    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
                                                                          26.0
                                                                                     0
                                                                    male
     890
                                           Dooley, Mr. Patrick
                                                                          32.0
                                                                                     0
                                                                    male
          Parch
                             Ticket
                                         Fare Cabin Embarked
                         A/5 21171
                                      7.2500
                                                NaN
     0
               0
                                                            S
                                                C85
                                                            C
     1
                          PC 17599
                                     71.2833
     2
                  STON/02. 3101282
                                      7.9250
                                                NaN
                                                            S
```

```
3
              0
                            113803 53.1000 C123
                                                           S
     4
              0
                                                           S
                            373450
                                     8.0500
                                               NaN
                                                •••
                                                           S
     886
              0
                            211536
                                    13.0000
                                               NaN
     887
              0
                            112053
                                    30.0000
                                               B42
                                                           S
     888
                        W./C. 6607
                                                           S
              2
                                    23.4500
                                               NaN
     889
              0
                            111369
                                    30.0000
                                              C148
                                                           C
     890
              0
                            370376
                                     7.7500
                                               NaN
                                                           Q
     [891 rows x 12 columns]
[6]: df.columns
[6]: Index(['PassengerId', 'Survived', 'Pclass', 'Name', 'Sex', 'Age', 'SibSp',
            'Parch', 'Ticket', 'Fare', 'Cabin', 'Embarked'],
```

1 ADD NEW COLUMN IN DATA FRAME

dtype='object')

```
[7]: df.columns
 [7]: Index(['PassengerId', 'Survived', 'Pclass', 'Name', 'Sex', 'Age', 'SibSp',
             'Parch', 'Ticket', 'Fare', 'Cabin', 'Embarked'],
            dtype='object')
 [8]: # Case - 1
      df["Friends"]="Virat Tiwari"
 [9]: df.columns
 [9]: Index(['PassengerId', 'Survived', 'Pclass', 'Name', 'Sex', 'Age', 'SibSp',
             'Parch', 'Ticket', 'Fare', 'Cabin', 'Embarked', 'Friends'],
            dtype='object')
     # DELETE ROW AND COLUMN FROM DATA FRAME
[10]: df.head()
[10]:
         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
      1
                                                                       38.0
                                                                                  1
      2
                                      Heikkinen, Miss. Laina
                                                                female
                                                                                    0
      3
               Futrelle, Mrs. Jacques Heath (Lily May Peel)
                                                                female
                                                                         35.0
                                                                                    1
      4
                                    Allen, Mr. William Henry
                                                                  male
                                                                         35.0
                                                                                    0
         Parch
                                       Fare Cabin Embarked
                            Ticket
                                                                   Friends
      0
              0
                        A/5 21171
                                     7.2500
                                               NaN
                                                           S
                                                              Virat Tiwari
      1
              0
                         PC 17599
                                    71.2833
                                                           C
                                                              Virat Tiwari
                                               C85
      2
                 STON/02. 3101282
                                     7.9250
                                                           S
                                                              Virat Tiwari
                                               NaN
      3
                                    53.1000
                                                              Virat Tiwari
                            113803
                                              C123
                            373450
                                     8.0500
                                               NaN
                                                             Virat Tiwari
[11]: | # Note - We have to use drop ( ) function for deleting the row or column
[12]: df.drop("PassengerId",axis=1)
[12]:
           Survived Pclass
                                                                                Name
      0
                   0
                            3
                                                           Braund, Mr. Owen Harris
      1
                   1
                            1
                               Cumings, Mrs. John Bradley (Florence Briggs Th...
      2
                   1
                            3
                                                            Heikkinen, Miss. Laina
      3
                   1
                            1
                                    Futrelle, Mrs. Jacques Heath (Lily May Peel)
      4
                   0
                            3
                                                          Allen, Mr. William Henry
      . .
                   0
                            2
                                                             Montvila, Rev. Juozas
      886
      887
                            1
                                                     Graham, Miss. Margaret Edith
                                         Johnston, Miss. Catherine Helen "Carrie"
      888
                   0
                            3
      889
                            1
                                                             Behr, Mr. Karl Howell
                   1
                            3
                                                               Dooley, Mr. Patrick
      890
                   0
                          SibSp
                                  Parch
                                                    Ticket
                                                                Fare Cabin Embarked
               Sex
                     Age
                                                 A/5 21171
      0
             male
                    22.0
                               1
                                      0
                                                              7.2500
                                                                                    S
                                                                        NaN
                                                                                    C
      1
           female
                    38.0
                                      0
                                                  PC 17599
                                                             71.2833
                                                                        C85
                               1
                                                                                    S
           female
                    26.0
                               0
                                      0
                                          STON/02. 3101282
                                                              7.9250
                                                                        NaN
      3
           female
                    35.0
                                      0
                                                    113803
                                                             53.1000
                                                                       C123
                                                                                    S
                               1
      4
             male
                    35.0
                               0
                                      0
                                                    373450
                                                              8.0500
                                                                        NaN
                                                                                    S
      886
             male 27.0
                               0
                                      0
                                                    211536 13.0000
                                                                        NaN
                                                                                    S
                                                                                    S
      887
           female 19.0
                               0
                                      0
                                                     112053
                                                            30.0000
                                                                        B42
           female
                               1
                                      2
                                                W./C. 6607
                                                             23.4500
                                                                                    S
      888
                     NaN
                                                                        NaN
      889
                                                                                    С
             male
                    26.0
                               0
                                      0
                                                     111369
                                                             30.0000
                                                                       C148
      890
             male
                    32.0
                               0
                                      0
                                                    370376
                                                              7.7500
                                                                        NaN
                                                                                    Q
                 Friends
      0
           Virat Tiwari
      1
           Virat Tiwari
           Virat Tiwari
      2
```

1

```
3
           Virat Tiwari
           Virat Tiwari
      4
      . .
          Virat Tiwari
      886
      887 Virat Tiwari
      888 Virat Tiwari
      889 Virat Tiwari
      890 Virat Tiwari
      [891 rows x 12 columns]
[13]: # When we perform the dataframe so we have to seen that column is not delete.
       \rightarrowpermanently
      df
[13]:
           PassengerId Survived Pclass
      0
                      1
                                0
                                         3
      1
                      2
                                1
                                         1
                      3
      2
                                1
                                         3
      3
                      4
                                1
                                         1
      4
                      5
                                0
      . .
                                         2
      886
                   887
                                0
      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
           Cumings, Mrs. John Bradley (Florence Briggs Th... female 38.0
      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
                                         Montvila, Rev. Juozas
      886
                                                                   male
                                                                         27.0
                                                                                    0
      887
                                 Graham, Miss. Margaret Edith
                                                                 female
                                                                         19.0
                                                                                    0
      888
                     Johnston, Miss. Catherine Helen "Carrie"
                                                                 female
                                                                          {\tt NaN}
                                                                                    1
      889
                                         Behr, Mr. Karl Howell
                                                                   male
                                                                         26.0
      890
                                           Dooley, Mr. Patrick
                                                                   male 32.0
           Parch
                             Ticket
                                         Fare Cabin Embarked
                                                                    Friends
               0
                          A/5 21171
                                      7.2500
                                                NaN
                                                            S Virat Tiwari
      0
```

C85

 ${\tt NaN}$

C Virat Tiwari

S Virat Tiwari

S Virat Tiwari

71.2833

7.9250

53.1000 C123

1

2

3

0

0

PC 17599

113803

STON/02. 3101282

4	0	373450	8.0500	NaN	S Virat Tiwari
		•••		•••	•••
886	0	211536	13.0000	NaN	S Virat Tiwari
887	0	112053	30.0000	B42	S Virat Tiwari
888	2	W./C. 6607	23.4500	NaN	S Virat Tiwari
889	0	111369	30.0000	C148	C Virat Tiwari
890	0	370376	7.7500	NaN	Q Virat Tiwari

[891 rows x 13 columns]

[14]: # For delete the row or column permanently we have to re-assign the df
This is how we delete the column permanently
df=df.drop("PassengerId",axis=1)

[15]: df

[15]:	0	Survive	d Pcla	ass 3			R	raund, Mr	- Οιτοη	Name	\
					~i n	Mma John					
	1		1		Jumings,	Mrs. John	•			•	
	2		1	3	.	Heikkinen, Miss. Laina					
	3		1	1	Futr	Futrelle, Mrs. Jacques Heath (Lily May Peel)				•	
	4		0	3			Al	len, Mr.	Willia	m Henry	
	• •	•••	•••							•••	
	886		0	2				Montvila	ı, Rev.	Juozas	
	887		1	1			Graham	, Miss. M	ſargare	t Edith	
	888		0	3		Johnston,	Miss. Ca	therine H	Helen "	Carrie"	
	889		1	1				Behr, Mr	. Karl	Howell	
	890		0	3				Dooley	, Mr.	Patrick	
								·			
		Sex	Age	SibSp	Parch		Ticket	Fare	Cabin	Embarked	\
	0	male	22.0	1	1 0	A/	[′] 5 21171	7.2500	NaN	S	
	1	female	38.0	1	1 0	F	PC 17599	71.2833	C85	C	
	2	female	26.0	(0	STON/O2.	3101282	7.9250	NaN	S	
	3	female	35.0	1	1 0		113803	53.1000	C123	S	
	4	male	35.0	C	0		373450	8.0500	NaN	S	
		•••		•••		•••	•••	•••			
	886	male	27.0	C	0		211536	13.0000	NaN	S	
	887	female	19.0	(0		112053	30.0000	B42	S	
	888	female	NaN	1		W. /	'C. 6607	23.4500	NaN	S	
	889	male	26.0	(** . ,	111369	30.0000	C148	C	
	890	male	32.0				370376	7.7500	NaN		
	090	шате	32.0	(, 0		310316	1.1500	NaN	Q	

Friends

- 0 Virat Tiwari
- 1 Virat Tiwari
- 2 Virat Tiwari
- 3 Virat Tiwari

```
. .
      886
           Virat Tiwari
      887
           Virat Tiwari
      888
          Virat Tiwari
           Virat Tiwari
      889
      890
          Virat Tiwari
      [891 rows x 12 columns]
[16]: df
                                                                                Name \
[16]:
           Survived
                     Pclass
                   0
                            3
                                                           Braund, Mr. Owen Harris
      0
      1
                   1
                            1
                               Cumings, Mrs. John Bradley (Florence Briggs Th ...
      2
                   1
                            3
                                                            Heikkinen, Miss. Laina
                   1
                                    Futrelle, Mrs. Jacques Heath (Lily May Peel)
      3
                            1
      4
                   0
                            3
                                                          Allen, Mr. William Henry
                   0
                            2
                                                             Montvila, Rev. Juozas
      886
      887
                   1
                            1
                                                      Graham, Miss. Margaret Edith
      888
                   0
                            3
                                         Johnston, Miss. Catherine Helen "Carrie"
      889
                   1
                            1
                                                             Behr, Mr. Karl Howell
      890
                   0
                            3
                                                                Dooley, Mr. Patrick
                     Age
                           SibSp
               Sex
                                  Parch
                                                     Ticket
                                                                 Fare Cabin Embarked
                    22.0
                                                 A/5 21171
                                                              7.2500
                                                                        NaN
      0
             male
                               1
                                       0
                                                                                    С
      1
           female
                    38.0
                               1
                                       0
                                                   PC 17599
                                                             71.2833
                                                                        C85
      2
           female
                    26.0
                               0
                                       0
                                          STON/02. 3101282
                                                              7.9250
                                                                        NaN
                                                                                    S
      3
                                       0
                                                     113803
                                                                                    S
           female
                    35.0
                               1
                                                             53.1000
                                                                       C123
      4
             male
                    35.0
                               0
                                       0
                                                     373450
                                                              8.0500
                                                                        NaN
                                                                                    S
      . .
                                                                                    S
      886
             male
                    27.0
                               0
                                       0
                                                     211536 13.0000
                                                                        NaN
                                                                                    S
      887
           female 19.0
                               0
                                       0
                                                     112053 30.0000
                                                                        B42
      888
           female
                                       2
                                                             23.4500
                                                                                    S
                     NaN
                               1
                                                W./C. 6607
                                                                        NaN
      889
             male 26.0
                               0
                                       0
                                                     111369
                                                             30.0000
                                                                       C148
                                                                                    C
      890
             male 32.0
                               0
                                       0
                                                     370376
                                                              7.7500
                                                                        NaN
                                                                                    Q
                 Friends
      0
           Virat Tiwari
           Virat Tiwari
      1
      2
           Virat Tiwari
      3
           Virat Tiwari
           Virat Tiwari
      . .
```

4

Virat Tiwari

Virat Tiwari

Virat Tiwari

886

```
888 Virat Tiwari
      889 Virat Tiwari
      890 Virat Tiwari
      [891 rows x 12 columns]
[17]: # Their is another way to delte the column permanently by passing the "inplace"
       →" inside the drop ( ) function
      df.drop("Pclass",axis=1,inplace=True)
[18]: df
[18]:
           Survived
                                                                      Name
                                                                                Sex \
                                                  Braund, Mr. Owen Harris
                                                                              male
      0
      1
                   1
                      Cumings, Mrs. John Bradley (Florence Briggs Th... female
      2
                   1
                                                  Heikkinen, Miss. Laina
      3
                   1
                           Futrelle, Mrs. Jacques Heath (Lily May Peel)
                                                                            female
                   0
                                                Allen, Mr. William Henry
      4
                                                                              male
      . .
                   0
                                                    Montvila, Rev. Juozas
      886
                                                                              male
                                            Graham, Miss. Margaret Edith
      887
                                                                            female
                               Johnston, Miss. Catherine Helen "Carrie"
      888
                   0
                                                                            female
      889
                   1
                                                    Behr, Mr. Karl Howell
                                                                              male
      890
                   0
                                                      Dooley, Mr. Patrick
                                                                              male
                                                       Fare Cabin Embarked
            Age
                 SibSp Parch
                                           Ticket
           22.0
                             0
                                                                          S
      0
                      1
                                        A/5 21171
                                                     7.2500
                                                              NaN
      1
           38.0
                      1
                             0
                                         PC 17599
                                                   71.2833
                                                              C85
                                                                          С
      2
           26.0
                                                                          S
                      0
                             0
                                STON/02. 3101282
                                                     7.9250
                                                              NaN
      3
           35.0
                      1
                                           113803
                                                    53.1000
                                                             C123
                                                                          S
      4
           35.0
                      0
                             0
                                           373450
                                                     8.0500
                                                              {\tt NaN}
                                                                          S
            •••
      886
          27.0
                      0
                             0
                                           211536 13.0000
                                                              NaN
                                                                          S
          19.0
                             0
      887
                      0
                                           112053
                                                   30.0000
                                                              B42
                                                                          S
                             2
                                       W./C. 6607
                                                                          S
      888
           {\tt NaN}
                      1
                                                   23.4500
                                                              {\tt NaN}
      889
          26.0
                      0
                             0
                                           111369
                                                   30.0000 C148
                                                                          С
      890
          32.0
                      0
                             0
                                           370376
                                                    7.7500
                                                              {\tt NaN}
                Friends
      0
           Virat Tiwari
           Virat Tiwari
      1
      2
           Virat Tiwari
           Virat Tiwari
      3
      4
           Virat Tiwari
```

.. 886

Virat Tiwari

```
887 Virat Tiwari
888 Virat Tiwari
889 Virat Tiwari
890 Virat Tiwari
```

[891 rows x 11 columns]

[19]: # This is how we drop the rows from the dataframe temporary df.drop(4)

[19]:	Survi	Trod					Name	Sex	\
0	Dui vi	0		T	Braund, Mr	. 0		male	`
					•				
1			mings,	Mrs. John Bradley		•	•		
2		1	.			-	s. Laina		
3		1	Futr	celle, Mrs. Jacques		•	•		
5		0			Mor	ran, Mi	c. James	male	
• •		•••					•••	•	
886		0			Montvila	•		male	
887		1			n, Miss. M	_		female	
888		0		Johnston, Miss. Ca	therine H	Ielen '	'Carrie"	female	
889		1			Behr, Mr	. Karl	L Howell	${\tt male}$	
890		0			Dooley	, Mr.	Patrick	male	
	Age	SibSp	Parch	Ticket	Fare	${\tt Cabin}$	${\tt Embarked}$	\	
0	22.0	1	0	A/5 21171	7.2500	NaN	S		
1	38.0	1	0	PC 17599	71.2833	C85	C		
2	26.0	0	0	STON/02. 3101282	7.9250	NaN	S		
3	35.0	1	0	113803	53.1000	C123	S		
5	NaN	0	0	330877	8.4583	NaN	Q		
	•••			***					
886	27.0	0	0	211536	13.0000	NaN	S		
887	19.0	0	0	112053	30.0000	B42	S		
888	NaN	1	2	W./C. 6607		NaN	S		
889	26.0	0	0	111369		C148	C		
890	32.0	0	0	370376	7.7500	NaN	Q		
030	02.0	O	O	010010	1.1000	IValV	Ų		
		Friends	5						

Friends

- 0 Virat Tiwari
- 1 Virat Tiwari
- 2 Virat Tiwari
- 3 Virat Tiwari
- 5 Virat Tiwari

886 Virat Tiwari

887 Virat Tiwari

888 Virat Tiwari

```
889 Virat Tiwari
890 Virat Tiwari
```

[890 rows x 11 columns]

```
[20]: # For deleting rows permanently we have to use " inplace = True " inside the drop () function

df.drop(4,inplace=True)
```

[21]: df

[21]:		Survi	ved						Name	Sex	\
	0		0			Е	Braund, Mr	. Owen	Harris	male	
	1		1	Cumings,	Mrs. John	Bradley	(Florence	Brigg	s Th f	emale	
	2		1			·	Heikkinen	ı, Miss	. Laina	female	
	3		1	Fut	relle, Mrs	. Jacques	Heath (I	ily Ma	y Peel)	female	
	5		0			-	Mor	an, Mr	. James	male	
										···	
	886		0				Montvila	, Rev.	Juozas	male	
	887		1			Graham	n, Miss. M	largare	t Edith	female	
	888		0		Johnston,			•			
	889		1		,		Behr, Mr			male	
	890		0				Dooley	, Mr.	Patrick	male	
							•				
		Age	SibS	Sp Parch		Ticket	Fare	Cabin	Embarked	\	
	0	22.0		1 0	A	/5 21171	7.2500	${\tt NaN}$	S		
	1	38.0		1 0		PC 17599	71.2833	C85	C		
	2	26.0		0 0	STON/02.	3101282	7.9250	NaN	S		
	3	35.0		1 0		113803	53.1000	C123	S		
	5	NaN		0 0		330877	8.4583	NaN	Q		
		•••	•••		•••	•••					
	886	27.0		0 0		211536	13.0000	NaN	S		
	887	19.0		0 0		112053	30.0000	B42	S		
	888	NaN		1 2	W.	/C. 6607	23.4500	NaN	S		
	889	26.0		0 0		111369	30.0000	C148	C		
	890	32.0		0 0		370376	7.7500	NaN	Q		

Friends

- O Virat Tiwari
- 1 Virat Tiwari
- 2 Virat Tiwari
- 3 Virat Tiwari
- 5 Virat Tiwari
- 886 Virat Tiwari
- 887 Virat Tiwari

```
888 Virat Tiwari
889 Virat Tiwari
890 Virat Tiwari
```

[890 rows x 11 columns]

```
[22]: # Set index by using the set_index ( "name of any column" ) function temporary
# This is how we set indexes by taking any colimn name
df.set_index("Name")
```

[22]:		Survived	Sex	Age \	
	Name				
	Braund, Mr. Owen Harris	0	male	22.0	
	Cumings, Mrs. John Bradley (Florence Briggs Tha	1 f	emale 3	8.0	
	Heikkinen, Miss. Laina	1	female	26.0	
	Futrelle, Mrs. Jacques Heath (Lily May Peel)	1	female	35.0	
	Moran, Mr. James	0	male	NaN	
	Montvila, Rev. Juozas	0	male	27.0	
	Graham, Miss. Margaret Edith	1	female	19.0	
	Johnston, Miss. Catherine Helen "Carrie"	0	female	NaN	
	Behr, Mr. Karl Howell	1	male	26.0	
	Dooley, Mr. Patrick	0	male	32.0	
		SibSp Pa	rch \		
	Name				
	Braund, Mr. Owen Harris	1	0		
	Cumings, Mrs. John Bradley (Florence Briggs Tha	1	0		
	Heikkinen, Miss. Laina	0	0		
	Futrelle, Mrs. Jacques Heath (Lily May Peel)	1	0		
	Moran, Mr. James	0	0		
	•••				
	Montvila, Rev. Juozas	0	0		
	Graham, Miss. Margaret Edith	0	0		
	Johnston, Miss. Catherine Helen "Carrie"	1	2		
	Behr, Mr. Karl Howell	0	0		
	Dooley, Mr. Patrick	0	0		
			Ticket	Fare	\
	Name				
	Braund, Mr. Owen Harris		5 21171	7.2500	
	Cumings, Mrs. John Bradley (Florence Briggs Tha	PC	17599 7	1.2833	
	Heikkinen, Miss. Laina	STON/O2.	3101282	7.9250	
	Futrelle, Mrs. Jacques Heath (Lily May Peel)		113803	53.1000	
	Moran, Mr. James		330877	8.4583	

	•••			•••	•••
	Montvila, Rev.	Juozas		211536	13.0000
	Graham, Miss.	Margaret Edith		112053	30.0000
	Johnston, Miss	. Catherine Helen "Carrie"		W./C. 6607	23.4500
	Behr, Mr. Karl	Howell		111369	30.0000
	Dooley, Mr. Pa			370376	7.7500
	, , , , , , , , , , , , , , , , , , ,				
			Cabin H	Embarked \	
	Name				
	Braund, Mr. Ow	en Harris	NaN	S	
		John Bradley (Florence Briggs Tha	C85	C	
	Heikkinen, Mis		NaN	S	
		Jacques Heath (Lily May Peel)	C123	S	
	Moran, Mr. Jam	les	NaN	Q	
		_			
	Montvila, Rev.		NaN	S	
		Margaret Edith	B42	S	
	Johnston, Miss	. Catherine Helen "Carrie"	NaN	S	
	Behr, Mr. Karl	Howell	C148	C	
	Dooley, Mr. Pa	trick	NaN	Q	
			I	Friends	
	Name				
	Braund, Mr. Ow	en Harris	Virat	Tiwari	
	Cumings, Mrs.	John Bradley (Florence Briggs Tha	Virat Ti	iwari	
	Heikkinen, Mis	s. Laina	Virat	Tiwari	
	Futrelle, Mrs.	Jacques Heath (Lily May Peel)	Virat	Tiwari	
	Moran, Mr. Jam		Virat	Tiwari	
	•••			•••	
	Montvila, Rev.	Juozas	Virat	Tiwari	
		Margaret Edith		Tiwari	
		. Catherine Helen "Carrie"		Tiwari	
	Behr, Mr. Karl			Tiwari	
	Dooley, Mr. Pa			Tiwari	
	booley, III. I a	CLICK	VIIau	IIWaII	
	[890 rows x 10	columnal			
	[030 10WB X 10	COlumns			
:	df				
•	41				
:	Survived			Name	Sex \
	0 0	Braund	Mr. Owen		nale
	1 1	Cumings, Mrs. John Bradley (Floren			
	2 1	-	en, Miss.		nale
	3 1				nale
		Futrelle, Mrs. Jacques Heath			
	5 0	M	oran, Mr	. James l	nale
		34	ח בו	 T	1-
	886 0	Montvi	la, Rev.	Juozas 1	nale

[23]

[23]

```
888
                               Johnston, Miss. Catherine Helen "Carrie"
                   0
                                                                            female
      889
                   1
                                                    Behr, Mr. Karl Howell
                                                                              male
      890
                                                      Dooley, Mr. Patrick
                   0
                                                                              male
                 SibSp Parch
                                           Ticket
                                                       Fare Cabin Embarked
            Age
           22.0
                             0
                                        A/5 21171
                                                    7.2500
                                                              NaN
                                                                          S
      0
                      1
           38.0
                                                                          С
      1
                      1
                             0
                                         PC 17599 71.2833
                                                              C85
      2
           26.0
                      0
                                                                          S
                             0
                                STON/02. 3101282
                                                    7.9250
                                                              NaN
      3
           35.0
                                           113803
                                                   53.1000
                                                             C123
                                                                          S
                      1
                             0
      5
            NaN
                      0
                             0
                                           330877
                                                    8.4583
                                                              NaN
                                                                          Q
      886
          27.0
                      0
                             0
                                           211536 13.0000
                                                              {\tt NaN}
                                                                          S
      887
           19.0
                      0
                             0
                                           112053 30.0000
                                                              B42
                                                                          S
      888
                             2
                                       W./C. 6607
                                                                          S
            NaN
                                                   23.4500
                      1
                                                              NaN
                                                   30.0000
                                                                          С
      889
          26.0
                      0
                             0
                                           111369
                                                             C148
      890
          32.0
                             0
                                           370376
                      0
                                                    7.7500
                                                                          Q
                                                              NaN
                 Friends
      0
           Virat Tiwari
           Virat Tiwari
      1
           Virat Tiwari
      2
      3
           Virat Tiwari
      5
           Virat Tiwari
      . .
      886 Virat Tiwari
      887 Virat Tiwari
      888 Virat Tiwari
      889 Virat Tiwari
      890 Virat Tiwari
      [890 rows x 11 columns]
[24]: # Set index by using the set_index ( "name of any column" ) function_
       \hookrightarrowPermanently
      # This is how we set indexes by taking any colimn name
      df.set_index("Name",inplace = True)
[25]:
     df
[25]:
                                                             Survived
                                                                                 Age \
                                                                           Sex
      Name
      Braund, Mr. Owen Harris
                                                                          male
                                                                                22.0
      Cumings, Mrs. John Bradley (Florence Briggs Tha...
                                                                  1 female 38.0
```

Graham, Miss. Margaret Edith female

887

Heikkinen, Miss. Laina Futrelle, Mrs. Jacques Heath (Lily May Peel) Moran, Mr. James		<pre>1 female 1 female 0 male</pre>	26.0 35.0 NaN	
Montvila, Rev. Juozas Graham, Miss. Margaret Edith Johnston, Miss. Catherine Helen "Carrie" Behr, Mr. Karl Howell Dooley, Mr. Patrick		male female female male male male		
	SibSp	Parch \		
Name	_			
Braund, Mr. Owen Harris	1	0		
Cumings, Mrs. John Bradley (Florence Briggs Tha	1	0		
Heikkinen, Miss. Laina	0	0		
Futrelle, Mrs. Jacques Heath (Lily May Peel)	1	0		
Moran, Mr. James	0	0		
		_		
Montvila, Rev. Juozas	0	0		
Graham, Miss. Margaret Edith Johnston, Miss. Catherine Helen "Carrie"	0 1	0 2		
Behr, Mr. Karl Howell	0	0		
Dooley, Mr. Patrick	0	0		
booley, iii. I dollon	v	v		
· ·		Ticket	Fare	\
Name Braund, Mr. Owen Harris Cumings, Mrs. John Bradley (Florence Briggs Tha Heikkinen, Miss. Laina Futrelle, Mrs. Jacques Heath (Lily May Peel) Moran, Mr. James		A/5 21171 PC 17599 7 2. 3101282 113803	7.2500 1.2833	\
Braund, Mr. Owen Harris Cumings, Mrs. John Bradley (Florence Briggs Tha Heikkinen, Miss. Laina Futrelle, Mrs. Jacques Heath (Lily May Peel) Moran, Mr. James		A/5 21171 PC 17599 7 2. 3101282 113803 330877 	7.2500 1.2833 7.9250 53.1000 8.4583	\
Braund, Mr. Owen Harris Cumings, Mrs. John Bradley (Florence Briggs Tha Heikkinen, Miss. Laina Futrelle, Mrs. Jacques Heath (Lily May Peel) Moran, Mr. James Montvila, Rev. Juozas		A/5 21171 PC 17599 7 2. 3101282 113803 330877 211536	7.2500 1.2833 7.9250 53.1000 8.4583 13.0000	\
Braund, Mr. Owen Harris Cumings, Mrs. John Bradley (Florence Briggs Tha Heikkinen, Miss. Laina Futrelle, Mrs. Jacques Heath (Lily May Peel) Moran, Mr. James Montvila, Rev. Juozas Graham, Miss. Margaret Edith	STON/O	A/5 21171 PC 17599 7 2. 3101282 113803 330877 211536 112053	7.2500 1.2833 7.9250 53.1000 8.4583 13.0000 30.0000	\
Braund, Mr. Owen Harris Cumings, Mrs. John Bradley (Florence Briggs Tha Heikkinen, Miss. Laina Futrelle, Mrs. Jacques Heath (Lily May Peel) Moran, Mr. James Montvila, Rev. Juozas	STON/O	A/5 21171 PC 17599 7 2. 3101282 113803 330877 211536	7.2500 1.2833 7.9250 53.1000 8.4583 13.0000	\
Braund, Mr. Owen Harris Cumings, Mrs. John Bradley (Florence Briggs Tha Heikkinen, Miss. Laina Futrelle, Mrs. Jacques Heath (Lily May Peel) Moran, Mr. James Montvila, Rev. Juozas Graham, Miss. Margaret Edith Johnston, Miss. Catherine Helen "Carrie"	STON/O	A/5 21171 PC 17599 7 2. 3101282 113803 330877 211536 112053 W./C. 6607	7.2500 1.2833 7.9250 53.1000 8.4583 13.0000 30.0000 23.4500	\
Braund, Mr. Owen Harris Cumings, Mrs. John Bradley (Florence Briggs Tha Heikkinen, Miss. Laina Futrelle, Mrs. Jacques Heath (Lily May Peel) Moran, Mr. James Montvila, Rev. Juozas Graham, Miss. Margaret Edith Johnston, Miss. Catherine Helen "Carrie" Behr, Mr. Karl Howell Dooley, Mr. Patrick	STON/O	A/5 21171 PC 17599 7 2. 3101282 113803 330877 211536 112053 W./C. 6607 111369	7.2500 1.2833 7.9250 53.1000 8.4583 13.0000 30.0000 23.4500 30.0000	\
Braund, Mr. Owen Harris Cumings, Mrs. John Bradley (Florence Briggs Tha Heikkinen, Miss. Laina Futrelle, Mrs. Jacques Heath (Lily May Peel) Moran, Mr. James Montvila, Rev. Juozas Graham, Miss. Margaret Edith Johnston, Miss. Catherine Helen "Carrie" Behr, Mr. Karl Howell Dooley, Mr. Patrick	STON/O	A/5 21171 PC 17599 7 2. 3101282	7.2500 1.2833 7.9250 53.1000 8.4583 13.0000 30.0000 23.4500 30.0000	\
Braund, Mr. Owen Harris Cumings, Mrs. John Bradley (Florence Briggs Tha Heikkinen, Miss. Laina Futrelle, Mrs. Jacques Heath (Lily May Peel) Moran, Mr. James Montvila, Rev. Juozas Graham, Miss. Margaret Edith Johnston, Miss. Catherine Helen "Carrie" Behr, Mr. Karl Howell Dooley, Mr. Patrick Name Braund, Mr. Owen Harris	STON/O	A/5 21171 PC 17599 7 2. 3101282	7.2500 1.2833 7.9250 53.1000 8.4583 13.0000 30.0000 23.4500 30.0000	
Braund, Mr. Owen Harris Cumings, Mrs. John Bradley (Florence Briggs Tha Heikkinen, Miss. Laina Futrelle, Mrs. Jacques Heath (Lily May Peel) Moran, Mr. James Montvila, Rev. Juozas Graham, Miss. Margaret Edith Johnston, Miss. Catherine Helen "Carrie" Behr, Mr. Karl Howell Dooley, Mr. Patrick	STON/O	A/5 21171 PC 17599 7 2. 3101282 113803 330877 211536 112053 W./C. 6607 111369 370376 mbarked \	7.2500 1.2833 7.9250 53.1000 8.4583 13.0000 30.0000 23.4500 30.0000	
Braund, Mr. Owen Harris Cumings, Mrs. John Bradley (Florence Briggs Tha Heikkinen, Miss. Laina Futrelle, Mrs. Jacques Heath (Lily May Peel) Moran, Mr. James Montvila, Rev. Juozas Graham, Miss. Margaret Edith Johnston, Miss. Catherine Helen "Carrie" Behr, Mr. Karl Howell Dooley, Mr. Patrick Name Braund, Mr. Owen Harris Cumings, Mrs. John Bradley (Florence Briggs Tha	Cabin E NaN C85	A/5 21171 PC 17599 7 2. 3101282 113803 330877 211536 112053 W./C. 6607 111369 370376 mbarked \ S C	7.2500 1.2833 7.9250 53.1000 8.4583 13.0000 30.0000 23.4500 30.0000	
Braund, Mr. Owen Harris Cumings, Mrs. John Bradley (Florence Briggs Tha Heikkinen, Miss. Laina Futrelle, Mrs. Jacques Heath (Lily May Peel) Moran, Mr. James Montvila, Rev. Juozas Graham, Miss. Margaret Edith Johnston, Miss. Catherine Helen "Carrie" Behr, Mr. Karl Howell Dooley, Mr. Patrick Name Braund, Mr. Owen Harris Cumings, Mrs. John Bradley (Florence Briggs Tha Heikkinen, Miss. Laina	Cabin E NaN C85 NaN	A/5 21171 PC 17599 7 2. 3101282	7.2500 1.2833 7.9250 53.1000 8.4583 13.0000 30.0000 23.4500 30.0000	

Graham, Miss. Margaret Edith	B42	S
Johnston, Miss. Catherine Helen "Carrie"	NaN	S
Behr, Mr. Karl Howell	C148	C
Dooley, Mr. Patrick	NaN	Q

Friends

N	ame

Braund, Mr. Owen Harris	Virat Tiwari
Cumings, Mrs. John Bradley (Florence Briggs Tha	Virat Tiwari
Heikkinen, Miss. Laina	Virat Tiwari
Futrelle, Mrs. Jacques Heath (Lily May Peel)	Virat Tiwari
Moran, Mr. James	Virat Tiwari
	•••
Montvila, Rev. Juozas	Virat Tiwari
Graham, Miss. Margaret Edith	Virat Tiwari
Johnston, Miss. Catherine Helen "Carrie"	Virat Tiwari
Behr, Mr. Karl Howell	Virat Tiwari
Dooley, Mr. Patrick	Virat Tiwari

[890 rows x 10 columns]

[26]: df.reset_index()

[26]:						I	Jame S	Survived	Sex	\
	0				Braund, Mr.	Owen Har	ris	0	male	
	1	Cumin	gs, Mrs	. John	Bradley (Florence	Briggs Tl	1	1 fe	emale	
	2				Heikkinen,	Miss. La	aina	1	female	
	3		Futrell	e, Mrs.	Jacques Heath (Li	ly May Pe	eel)	1	female	
	4				Mora	n, Mr. Ja	ames	0	male	
							•••		••	
	885				Montvila,	Rev. Ju	zas	0	male	
	886				Graham, Miss. Ma	rgaret Ed	lith	1	female	
	887		Joh	nston,	Miss. Catherine He	len "Carı	rie"	0	female	
	888				Behr, Mr.	Karl Ho	vell	1	${\tt male}$	
	889				Dooley,	Mr. Pati	rick	0	male	
		Age	SibSp	Parch	Ticket	Fare	${\tt Cabin}$	${\tt Embarked}$	\	
	0	22.0	1	0	A/5 21171	7.2500	NaN	S		
	1	38.0	1	0	PC 17599	71.2833	C85	C		
	2	26.0	0	0	STON/02. 3101282	7.9250	NaN	S		
	3	35.0	1	0	113803	53.1000	C123	S		
	4	NaN	0	0	330877	8.4583	${\tt NaN}$	Q		
		•••					·•			
	885	27.0	0	0	211536	13.0000	NaN	S		
	886	19.0	0	0	112053	30.0000	B42	S		
	887	NaN	1	2	W./C. 6607	23.4500	${\tt NaN}$	S		
	888	26.0	0	0	111369	30.0000	C148	С		

```
889 32.0
                            0
                                          370376
                                                   7.7500
                                                            {\tt NaN}
                                                                        Q
                Friends
           Virat Tiwari
      1
           Virat Tiwari
           Virat Tiwari
      2
           Virat Tiwari
      3
      4
           Virat Tiwari
      885 Virat Tiwari
      886 Virat Tiwari
      887 Virat Tiwari
      888 Virat Tiwari
      889 Virat Tiwari
      [890 rows x 11 columns]
[27]: # Note - We convert Dictionary into Dataframe
      # Dictionary keys become the Columns
      # Dictionary values become the values of row
      d={\text{"key"}: [6,5,4,2,3]},
         "key2": [9,8,5,6,8],
         "key3":[4,6,3,1,9]
[28]: pd.DataFrame(d)
[28]:
         key key2 key3
           6
                 9
      0
           5
                 8
      1
      2
           4
                 5
                       3
      3
           2
                 6
                       1
      4
           3
                       9
[29]: # Note - We convert Dictionary into Dataframe
      # Dictionary keys become the Columns
      # Dictionary values become the values of row
      BioData={"Name":["Virat","Yash","Rohit"],
         "Jobs":["Data Scientist", "ML Engineer", "Robotic instructor"],
         "Companies":["E&Y","TCS","ABB"],
         "Salery":["50K","65K","48K"]
```

```
}
      # This is how we made dataframe from the dictionary
[30]: pd.DataFrame(BioData)
[30]:
          Name
                               Jobs Companies Salery
         Virat
                    Data Scientist
                                          E&Y
                                                  50K
          Yash
                        ML Engineer
                                          TCS
                                                  65K
      2 Rohit Robotic instructor
                                          ABB
                                                  48K
[31]: df1=pd.read_csv("taxonomy.csv")
[32]: df1
[32]:
          taxonomy_id
                                                 name parent_id
                                                                           parent_name
      0
                  101
                                           Emergency
                                                            NaN
      1
               101-01
                                   Disaster Response
                                                            101
                                                                             Emergency
      2
               101-02
                                      Emergency Cash
                                                            101
                                                                             Emergency
      3
            101-02-01
                                   Help Pay for Food
                                                         101-02
                                                                        Emergency Cash
                             Help Pay for Healthcare
      4
            101-02-02
                                                         101-02
                                                                        Emergency Cash
      285
            111-01-07
                                    Workplace Rights
                                                         111-01
                                                                 Advocacy & Legal Aid
      286
               111-02
                                            Mediation
                                                            111
                                                                                 Legal
      287
               111-03
                                              Notary
                                                            111
                                                                                 Legal
      288
               111-04
                                      Representation
                                                            111
                                                                                 Legal
      289
               111-05
                       Translation & Interpretation
                                                            111
                                                                                 Legal
      [290 rows x 4 columns]
[33]: # For deleting the NA (Not available data or missing data ) we have to use_
       →dropna () function
      # dropna ( ) function - For deleting missing data or values
      df1.dropna()
[33]:
                                                 name parent_id
                                                                           parent_name
          taxonomy_id
      1
               101-01
                                   Disaster Response
                                                            101
                                                                             Emergency
      2
               101-02
                                      Emergency Cash
                                                            101
                                                                             Emergency
      3
            101-02-01
                                   Help Pay for Food
                                                         101-02
                                                                        Emergency Cash
      4
            101-02-02
                             Help Pay for Healthcare
                                                         101-02
                                                                        Emergency Cash
                                Help Pay for Housing
            101-02-03
                                                         101-02
                                                                        Emergency Cash
      285
            111-01-07
                                    Workplace Rights
                                                         111-01
                                                                 Advocacy & Legal Aid
      286
               111-02
                                            Mediation
                                                            111
                                                                                 Legal
```

287	111-03	Notary	111	Legal
288	111-04	Representation	111	Legal
289	111-05	Translation & Interpretation	111	Legal

[279 rows x 4 columns]

[34]:	df.dropna	()
-------	-----------	----

[34]:		Survived	. Sex	. Age	\	
	Name	3				
	Cumings, Mrs. John Bradley (Florence Briggs Tha	1	female	38.0		
	Futrelle, Mrs. Jacques Heath (Lily May Peel)	1	female	35.0		
	McCarthy, Mr. Timothy J	0	male	54.0		
	Sandstrom, Miss. Marguerite Rut	1	female	4.0		
	Bonnell, Miss. Elizabeth	1	female	58.0		
		•••	•••			
	Beckwith, Mrs. Richard Leonard (Sallie Monypeny)	1	female	47.0		
	Carlsson, Mr. Frans Olof	0	male	33.0		
	Potter, Mrs. Thomas Jr (Lily Alexenia Wilson)	1		56.0		
	Graham, Miss. Margaret Edith	1		19.0		
	Behr, Mr. Karl Howell	1		26.0		
	,	_				
		SibSp P	arch	Ticket	\	
	Name	222P	<u> </u>		•	
	Cumings, Mrs. John Bradley (Florence Briggs Tha	1	0 PC 1	7599		
	Futrelle, Mrs. Jacques Heath (Lily May Peel)	1	0	113803		
	McCarthy, Mr. Timothy J	0	0	17463		
	Sandstrom, Miss. Marguerite Rut	1		P 9549		
	Bonnell, Miss. Elizabeth	0	0	113783		
	Bonnett, miss. Erizabeth	_		110700		
	Beckwith, Mrs. Richard Leonard (Sallie Monypeny)	 1	 1	11751		
	Carlsson, Mr. Frans Olof	0	0	695		
	Potter, Mrs. Thomas Jr (Lily Alexenia Wilson)	0	1	11767		
	•	0	0	112053		
	Graham, Miss. Margaret Edith	0	0			
	Behr, Mr. Karl Howell	U	U	111369		
		Fare	(Cabin	\	
	Name	rare		Javin	`	
	Cumings, Mrs. John Bradley (Florence Briggs Tha	71.2833	(C85		
		53.1000		C123		
	Futrelle, Mrs. Jacques Heath (Lily May Peel)					
	McCarthy, Mr. Timothy J	51.8625		E46		
	Sandstrom, Miss. Marguerite Rut	16.7000		G6		
	Bonnell, Miss. Elizabeth	26.5500		C103		
	Destroith Man Dishard I (C-33: May	 EO EE40	•••	מר		
	Beckwith, Mrs. Richard Leonard (Sallie Monypeny)	52.5542	DE4 DE6	D35		
	Carlsson, Mr. Frans Olof	5.0000	B51 B53			
	Potter, Mrs. Thomas Jr (Lily Alexenia Wilson)	83.1583		C50		

		am, Miss. Ma	_	30.0		B42
	репт	, Mr. Karl H	Owell	30.0	000	C148
				Embar	ked F	riends
	Name Cumi		hn Bradley (Florence Briggs T	ha	C Virat Ti	wari
		•	acques Heath (Lily May Peel)		S Virat	
		rthy, Mr. Ti			S Virat	
		•	Marguerite Rut		S Virat	Tiwari
	Bonn	ell, Miss. E	lizabeth		S Virat	Tiwari
	•••			•••	•••	
	Beck	with, Mrs. R	ichard Leonard (Sallie Monyper	ny)	S Virat	Tiwari
	Carl	sson, Mr. Fr	ans Olof		S Virat	Tiwari
	Pott	er, Mrs. Tho	mas Jr (Lily Alexenia Wilson)		C Virat	Tiwari
	Grah	am, Miss. Ma	rgaret Edith		S Virat	Tiwari
	Behr	, Mr. Karl H	owell		C Virat	Tiwari
	[183	3 rows x 10 c	olumns]			
[35]:	df1					
[35]:		taxonomy_id	name	parent_id	р	arent_name
	0	101	Emergency	NaN	_	NaN
	1	101-01	Disaster Response	101		Emergency
	2	101-02	Emergency Cash	101		Emergency
	3	101-02-01	Help Pay for Food	101-02	Emer	gency Cash
	4	101-02-02	Help Pay for Healthcare	101-02	Emer	gency Cash
	 285	 111-01-07	 Workplace Rights	 111-01	Advocacy &	 Legal Aid
	286	111-02	Mediation			Legal
	287	111-03	Notary	111		Legal
	288	111-04	Representation			Legal
	289	111-05	Translation & Interpretation	111		Legal
	[290	rows x 4 co	lumns]			
[36]:	# FC	OR DELETE MIS	SING DATA OR VALUES PERMANENT	LY		
	# WE	E HAVE TO USE	C - dropna (inplace=True)			
	df1.	dropna(inpla	ce=True)			
[37]:	df1					
[37]:		taxonomy_id	name	parent_id	р	arent_name
	1	101-01	Disaster Response	101	•	Emergency
	2	101-02	Emergency Cash	101		Emergency

3	101-02-01	Help Pay for Food	101-02	Emergency Cash
4	101-02-02	Help Pay for Healthcare	101-02	Emergency Cash
5	101-02-03	Help Pay for Housing	101-02	Emergency Cash
	•••		•••	•••
285	111-01-07	Workplace Rights	111-01	Advocacy & Legal Aid
286	111-02	Mediation	111	Legal
287	111-03	Notary	111	Legal
288	111-04	Representation	111	Legal
289	111-05	Translation & Interpretation	111	Legal

[279 rows x 4 columns]

[38]: # MOST IMPORTANT

SAVE THE DATA IN LOCAL SYSTEM

.to_csv(" name.csv") - BY USING THIS SYSNTAX WE HAVE TO SAVE ANY FILE OR_{\sqcup} \hookrightarrow UPDATED FILE INTO OUR LOCAL SYSTEM

WE CAN SAVE OR STORE DATA SETS THAT WE HAVE MADE OR MANIPULATED IN PANDAS

df1.to_csv("New_Data.csv")

[39]: df.dropna(axis=1)

[39]:		Survive	ed	Sex	SibSp	\
	Name					
	Braund, Mr. Owen Harris		0	male	1	
	Cumings, Mrs. John Bradley (Florence Briggs Tha	1	f	emale	1	
	Heikkinen, Miss. Laina		1	female	0	
	Futrelle, Mrs. Jacques Heath (Lily May Peel)		1	female	1	
	Moran, Mr. James		0	male	0	
	Montvila, Rev. Juozas		0	male	0	
	Graham, Miss. Margaret Edith		1	female	0	
	Johnston, Miss. Catherine Helen "Carrie"		0	female	1	
	Behr, Mr. Karl Howell		1	male	0	
	Dooley, Mr. Patrick		0	male	0	
		D 1			m. 1 .	
	AT.	Parch			Ticket	\
	Name					
	Braund, Mr. Owen Harris	0		A/5	5 21171	
	Cumings, Mrs. John Bradley (Florence Briggs Tha	0		PC 1	17599	
	Heikkinen, Miss. Laina	0	ST	ON/O2. 3	3101282	
	Futrelle, Mrs. Jacques Heath (Lily May Peel)	0			113803	
	Moran, Mr. James	0			330877	

Graham, Miss. Margaret Edith	Montuila Rou	Juozas		0 211536
Johnston, Miss. Catherine Helen "Carrie" 2 W./C. 6607 Behr, Mr. Karl Howell 0 111369 Dooley, Mr. Patrick 0 0 370376 Fare Friends				
Behr, Mr. Karl Howell 0 370376		_		
Dooley, Mr. Patrick 0 370376	· · · · · · · · · · · · · · · · · · ·			
Name Fare Friends Name Braund, Mr. Owen Harris 7.2500 Virat Tiwari Cumings, Mrs. John Bradley (Florence Briggs Tha 7.2500 Virat Tiwari 7.9250 Virat				
Name	Dooley, Mr. Patr	rick		0 370376
Braund, Mr. Owen Harris	Nome		F	are Friends
Heikkinen, Miss. Laina Futrelle, Mrs. Jacques Heath (Lily May Peel) Futrelle, Mrs. Jacques Heath (Lily Mrs. Jacques Heath (Lil		ı Harris	7.2	2500 Virat Tiwari
Heikkinen, Miss. Laina Futrelle, Mrs. Jacques Heath (Lily May Peel) Futrelle, Mrs. Jacques Heath (Lily Mrs. Jacques Heath (Lil	Cumings, Mrs. Jo	ohn Bradley (Florence Briggs T	ha 71.283	33 Virat Tiwari
Futrelle, Mrs. Jacques Heath (Lily May Peel) Moran, Mr. James """ Montvila, Rev. Juozas Graham, Miss. Margaret Edith Johnston, Miss. Catherine Helen "Carrie" Behr, Mr. Karl Howell Jooley, Mr. Patrick Gradam, Miss. Toolumns Ol: df2=pd.read_csv("taxonomy.csv") I]: df2 L]: taxonomy_id 101-01 Emergency 101-02 Emergency Cash 101 Emergency 101-02-01 Help Pay for Food 101-02 Emergency Cash 101 Emergency Cash 101 Emergency Cash 101-02-02 Help Pay for Healthcare 101-02 Emergency Cash 101-02-02 Help Pay for Healthcare 101-02 Emergency Cash 101 Emergency Cash 101-02-02 Help Pay for Healthcare 101-02 Emergency Cash 101 Emer	_	•		9250 Virat Tiwari
Moran, Mr. James 8.4583 Virat Tiwari "Montvila, Rev. Juozas 13.0000 Virat Tiwari Graham, Miss. Margaret Edith 30.0000 Virat Tiwari Johnston, Miss. Catherine Helen "Carrie" 23.4500 Virat Tiwari Behr, Mr. Karl Howell 30.0000 Virat Tiwari Dooley, Mr. Patrick 7.7500 Virat Tiwari [890 rows x 7 columns] O 101 Emergency NaN Na 1 101-01 Disaster Response 101 Emergenc 2 101-02 Emergency Cash 101 Emergenc 3 101-02-01 Help Pay for Food 101-02 Emergency Cash 4 101-02-02 Help Pay for Healthcare 101-02 Emergency Cash 1 11-01 Workplace Rights 111-01 Advocacy & Legal Ai 286 111-02 Mediation 111 Lega 287 111-03 Notary 111 Lega 288 111-04 Representation 111 Lega 289 111-05 Translation & Interpretation 111 Lega [290 rows x 4 columns] I taxonomy_id name **This is how we remove the columns with null values** df2.dropna(axis=1) **This is how we remove the columns with null values** df2.dropna(axis=1)				
Montvila, Rev. Juozas		_		
Montvila, Rev. Juozas		-		
Graham, Miss. Margaret Edith Johnston, Miss. Catherine Helen "Carrie" Behr, Mr. Karl Howell Jooley, Mr. Patrick [890 rows x 7 columns] [1]: df2 [2]: taxonomy_id		Juozas		 2000 Virat Tiwari
Johnston, Miss. Catherine Helen "Carrie" 23.4500 Virat Tiwari Behr, Mr. Karl Howell 30.0000 Virat Tiwari Dooley, Mr. Patrick 7.7500 Virat Tiwari [890 rows x 7 columns] 23.4500 Virat Tiwari 30.0000 Virat Tiwari 7.7500 Virat Tiwari 7.7500 Virat Tiwari [890 rows x 7 columns] 24.11: taxonomy_id name parent_id parent_nam 0 101 Emergency NaN Na Na 1 101-01 Disaster Response 101 Emergency 2 101-02 Emergency Cash 101 Emergency 3 101-02-01 Help Pay for Food 101-02 Emergency Cash 4 101-02-02 Help Pay for Healthcare 101-02 Emergency Cash 101-02 Emergency Emergency Cash 101-02 Emergency Emergency Cash 101-02 Emergency Emergency Emergency Em				
Behr, Mr. Karl Howell Dooley, Mr. Patrick 7.7500 Virat Tiwari [890 rows x 7 columns] [890 rows x 7 c		G		
Dooley, Mr. Patrick 7.7500 Virat Tiwari	· · · · · · · · · · · · · · · · · · ·			
[890 rows x 7 columns] [9]				
df2=pd.read_csv("taxonomy.csv") df2 df2	Dooley, Mr. Pati	TICK	1.1	500 Virat liwari
df2 taxonomy_id	[890 rows x 7 co	olumns]		
taxonomy_id]: df2=pd.read_csv	("taxonomy.csv")		
0 101 Emergency NaN Na 1 101-01 Disaster Response 101 Emergency 2 101-02 Emergency Cash 101 Emergency 3 101-02-01 Help Pay for Food 101-02 Emergency Cash 4 101-02-02 Help Pay for Healthcare 101-02 Emergency Cash 285 111-01-07 Workplace Rights 111-01 Advocacy & Legal Air 286 111-02 Mediation 111 Legal 287 111-03 Notary 111 Legal 288 111-04 Representation 111 Legal 289 111-05 Translation & Interpretation 111 Legal 289 111-05 Translation & Interpretation 111 Legal [290 rows x 4 columns] 21: # This is how we remove the columns with null values df2.dropna(axis=1)	l]: df2			
0 101 Emergency NaN Na 1 101-01 Disaster Response 101 Emergency 2 101-02 Emergency Cash 101 Emergency 3 101-02-01 Help Pay for Food 101-02 Emergency Cash 4 101-02-02 Help Pay for Healthcare 101-02 Emergency Cash 285 111-01-07 Workplace Rights 111-01 Advocacy & Legal Air 286 111-02 Mediation 111 Legal 287 111-03 Notary 111 Legal 288 111-04 Representation 111 Legal 289 111-05 Translation & Interpretation 111 Legal 289 111-05 Translation & Interpretation 111 Legal [290 rows x 4 columns] 21: # This is how we remove the columns with null values df2.dropna(axis=1)	l: taxonomy id	name	parent id	parent name
1 101-01 Disaster Response 101 Emergence 2 101-02 Emergency Cash 101 Emergence 3 101-02-01 Help Pay for Food 101-02 Emergency Case 4 101-02-02 Help Pay for Healthcare 101-02 Emergency Case	v –		_	NaN
2 101-02 Emergency Cash 101 Emergency Cash 3 101-02-01 Help Pay for Food 101-02 Emergency Cash 4 101-02-02 Help Pay for Healthcare 101-02 Emergency Cash 101-02-02 Help Pay for Healthcare 101-02 Emergency Cash 101-02-03 Emergency Cash 101-03 Interpretation 101-04 Emergency Cash 101-04 Representation 101-04 Emergency Cash 101-04 Representation 101-04 Emergency Cash 101-05 Translation & Interpretation 101-05 Emergency Cash 101-05 Emergency Cash 101-02 Emergency		- · · · · · · · · · · · · · · · · · · ·		Emergency
3 101-02-01 Help Pay for Food 101-02 Emergency Cas 4 101-02-02 Help Pay for Healthcare 101-02 Emergency Cas 285 111-01-07 Workplace Rights 111-01 Advocacy & Legal Ai 286 111-02 Mediation 111 Lega 287 111-03 Notary 111 Lega 288 111-04 Representation 111 Lega 289 111-05 Translation & Interpretation 111 Lega [290 rows x 4 columns] 2]: # This is how we remove the columns with null values df2.dropna(axis=1) 2]: taxonomy_id name				
4 101-02-02 Help Pay for Healthcare 101-02 Emergency Cas		_ ,		0 ,
		- •		
286	4 101-02-02	neip Fay for hearthcare	101-02	Emergency Cash
286		 		
287 111-03 Notary 111 Legal 288 111-04 Representation 111 Legal 289 111-05 Translation & Interpretation 111 Legal 290 rows x 4 columns [290 rows x 4 columns] 2]: # This is how we remove the columns with null values df2.dropna(axis=1) 2]: taxonomy_id name				• •
288 111-04 Representation 111 Lega 289 111-05 Translation & Interpretation 111 Lega [290 rows x 4 columns] 2]: # This is how we remove the columns with null values df2.dropna(axis=1) 2]: taxonomy_id name	286 111-02	Mediation	111	_
289 111-05 Translation & Interpretation 111 Legal [290 rows x 4 columns] 2]: # This is how we remove the columns with null values df2.dropna(axis=1) 2]: taxonomy_id name				
[290 rows x 4 columns] 2]: # This is how we remove the columns with null values df2.dropna(axis=1) 2]: taxonomy_id name		•		Legal
2]: # This is how we remove the columns with null values df2.dropna(axis=1) 2]: taxonomy_id name	288 111-04	Representation	111	Legal
df2.dropna(axis=1) 2]: taxonomy_id name	288 111-04	Representation	111	_
2]: taxonomy_id name	288 111-04 289 111-05	Representation Translation & Interpretation	111	Legal
<i>v</i> –	288 111-04 289 111-05 [290 rows x 4 co	Representation Translation & Interpretation olumns]	111 111	Legal
<i>v</i> –	288 111-04 289 111-05 [290 rows x 4 co	Representation Translation & Interpretation olumns] e remove the columns with null	111 111	Legal
0 101 Emergency	288 111-04 289 111-05 [290 rows x 4 co 2]: # This is how we df2.dropna(axis=	Representation Translation & Interpretation clumns] e remove the columns with null =1)	111 111	Legal

```
1
         101-01
                            Disaster Response
2
         101-02
                                Emergency Cash
3
      101-02-01
                            Help Pay for Food
      101-02-02
                      Help Pay for Healthcare
4
      111-01-07
285
                             Workplace Rights
286
         111-02
                                     Mediation
287
         111-03
                                        Notary
                                Representation
288
         111-04
289
         111-05 Translation & Interpretation
```

[290 rows x 2 columns]

```
[43]: # FILL THE NA VALUES OR MISSING VALUES IN DATAFRAME

# .fillna ( ) function - BY USING THIS SYNTAX WE HAVE TO FILL THE NA OR MISSING

→VALUES OF DATA FRAMES

# We simply pass the value inside the " .fillna ( " " ) "

df2.fillna("Virat")
```

[43]:		taxonomy_id	name	parent_id	parent_name
	0	101	Emergency	Virat	Virat
	1	101-01	Disaster Response	101	Emergency
	2	101-02	Emergency Cash	101	Emergency
	3	101-02-01	Help Pay for Food	101-02	Emergency Cash
	4	101-02-02	Help Pay for Healthcare	101-02	Emergency Cash
		•••	•••	•••	•••
	285	111-01-07	Workplace Rights	111-01	Advocacy & Legal Aid
	286	111-02	Mediation	111	Legal
	287	111-03	Notary	111	Legal
	288	111-04	Representation	111	Legal
	289	111-05	Translation & Interpretation	111	Legal

[290 rows x 4 columns]

[44]: df

[44]:Survived Age \ Sex Name Braund, Mr. Owen Harris male 22.0 Cumings, Mrs. John Bradley (Florence Briggs Tha... 1 female 38.0 Heikkinen, Miss. Laina 1 female 26.0 Futrelle, Mrs. Jacques Heath (Lily May Peel) female 35.0 Moran, Mr. James 0 male NaN

Name Braund, Mr. Owen Harris Cumings, Mrs. John Bradley (Florence Briggs Tha Heikkinen, Miss. Laina Futrelle, Mrs. Jacques Heath (Lily May Peel) Moran, Mr. James Montvila, Rev. Juozas Graham, Miss. Margaret Edith Johnston, Miss. Catherine Helen "Carrie" Dooley, Mr. Patrick SibSp Parch Name 1 0 0 0 0 0 0 0 0 0 0 0 0 0
Braund, Mr. Owen Harris 1 0 Cumings, Mrs. John Bradley (Florence Briggs Tha 1 0 Heikkinen, Miss. Laina 0 0 Futrelle, Mrs. Jacques Heath (Lily May Peel) 1 0 Moran, Mr. James 0 0 Montvila, Rev. Juozas 0 0 Graham, Miss. Margaret Edith 0 0 Johnston, Miss. Catherine Helen "Carrie" 1 2 Behr, Mr. Karl Howell 0 0
Cumings, Mrs. John Bradley (Florence Briggs Tha 1 0 Heikkinen, Miss. Laina 0 0 Futrelle, Mrs. Jacques Heath (Lily May Peel) 1 0 Moran, Mr. James 0 0 Montvila, Rev. Juozas 0 0 Graham, Miss. Margaret Edith 0 0 Johnston, Miss. Catherine Helen "Carrie" 1 2 Behr, Mr. Karl Howell 0 0
Heikkinen, Miss. Laina 0 0 Futrelle, Mrs. Jacques Heath (Lily May Peel) 1 0 Moran, Mr. James 0 0 Montvila, Rev. Juozas 0 0 Graham, Miss. Margaret Edith 0 0 Johnston, Miss. Catherine Helen "Carrie" 1 2 Behr, Mr. Karl Howell 0 0
Futrelle, Mrs. Jacques Heath (Lily May Peel) Moran, Mr. James "" "" Montvila, Rev. Juozas Graham, Miss. Margaret Edith Johnston, Miss. Catherine Helen "Carrie" Behr, Mr. Karl Howell 1 0 0 0 0 1 1 0 0 0 0
Moran, Mr. James 0 0 0
Montvila, Rev. Juozas 0 0 Graham, Miss. Margaret Edith 0 0 Johnston, Miss. Catherine Helen "Carrie" 1 2 Behr, Mr. Karl Howell 0 0
Graham, Miss. Margaret Edith 0 0 Johnston, Miss. Catherine Helen "Carrie" 1 2 Behr, Mr. Karl Howell 0 0
Johnston, Miss. Catherine Helen "Carrie"12Behr, Mr. Karl Howell00
Behr, Mr. Karl Howell 0 0
Dooley, Mr. Patrick 0 0
Ticket Fare \
Name Braund, Mr. Owen Harris A/5 21171 7.2500
, , , , , , , , , , , , , , , , , , , ,
Cumings, Mrs. John Bradley (Florence Briggs Tha PC 17599 71.2833 Heikkinen, Miss. Laina STON/O2. 3101282 7.9250
Futrelle, Mrs. Jacques Heath (Lily May Peel) 113803 53.1000 Moran, Mr. James 330877 8.4583
Montvila, Rev. Juozas 211536 13.0000
Graham, Miss. Margaret Edith 112053 30.0000
Johnston, Miss. Catherine Helen "Carrie" W./C. 6607 23.4500
Behr, Mr. Karl Howell 111369 30.0000
Dooley, Mr. Patrick 370376 7.7500
Cabin Embarked \
Name Braund, Mr. Owen Harris NaN S
Cumings, Mrs. John Bradley (Florence Briggs Tha C85 C
Heikkinen, Miss. Laina NaN S
Futrelle, Mrs. Jacques Heath (Lily May Peel) C123 S
Moran, Mr. James NaN Q
· · · · · · · · · · · · · · · · · · ·
Montvila, Rev. Juozas NaN S
Graham, Miss. Margaret Edith B42 S
Johnston, Miss. Catherine Helen "Carrie" NaN S
Behr, Mr. Karl Howell C148 C
Dooley, Mr. Patrick NaN Q

Friends Name

Braund, Mr. Owen Harris Virat Tiwari Cumings, Mrs. John Bradley (Florence Briggs Tha... Virat Tiwari Heikkinen, Miss. Laina Virat Tiwari Virat Tiwari Futrelle, Mrs. Jacques Heath (Lily May Peel) Moran, Mr. James Virat Tiwari Montvila, Rev. Juozas Virat Tiwari Graham, Miss. Margaret Edith Virat Tiwari Johnston, Miss. Catherine Helen "Carrie" Virat Tiwari Behr, Mr. Karl Howell Virat Tiwari Dooley, Mr. Patrick Virat Tiwari

[890 rows x 10 columns]

[45]: df.reset_index(inplace=True)

[46]: df

[46]: Name Survived Sex \ 0 Braund, Mr. Owen Harris 0 male 1 Cumings, Mrs. John Bradley (Florence Briggs Th ... 1 female 2 Heikkinen, Miss. Laina 1 female 3 Futrelle, Mrs. Jacques Heath (Lily May Peel) 1 female 4 Moran, Mr. James male Montvila, Rev. Juozas 885 0 male 1 female 886 Graham, Miss. Margaret Edith 887 Johnston, Miss. Catherine Helen "Carrie" 0 female 888 Behr, Mr. Karl Howell male 889 Dooley, Mr. Patrick male Age SibSp Parch Ticket Fare Cabin Embarked \

		_					
0	22.0	1	0	A/5 21171	7.2500	NaN	S
1	38.0	1	0	PC 17599	71.2833	C85	C
2	26.0	0	0	STON/02. 3101282	7.9250	NaN	S
3	35.0	1	0	113803	53.1000	C123	S
4	NaN	0	0	330877	8.4583	NaN	Q
	•••						
885	27.0	0	0	211536	13.0000	NaN	S
886	19.0	0	0	112053	30.0000	B42	S
887	NaN	1	2	W./C. 6607	23.4500	NaN	S
888	26.0	0	0	111369	30.0000	C148	C
889	32.0	0	0	370376	7.7500	NaN	Q
							-

```
1
          Virat Tiwari
      2
          Virat Tiwari
      3
          Virat Tiwari
          Virat Tiwari
      885 Virat Tiwari
      886 Virat Tiwari
      887 Virat Tiwari
      888 Virat Tiwari
      889 Virat Tiwari
      [890 rows x 11 columns]
[47]: # .groupby ( ) function - By using this function we have to group by the data
      # Like we have to take the "Survived" column in which we have to group the
       ⇒value of fair that how much fair is given by survived or how much fair is⊔
       ⇔not given by survived
      g=df.groupby("Survived")
[48]: g
[48]: <pandas.core.groupby.generic.DataFrameGroupBy object at 0x7f1d298699c0>
[49]: | # .sum ( ) function - By using this function we have to summarize or sum the
       ⇔group by function of any column
      g.sum()
     /tmp/ipykernel 249/3279743109.py:3: FutureWarning: The default value of
     numeric_only in DataFrameGroupBy.sum is deprecated. In a future version,
     numeric_only will default to False. Either specify numeric_only or select only
     columns which should be valid for the function.
       g.sum()
[49]:
                     Age SibSp Parch
                                              Fare
      Survived
      0
                                   181 12134.6699
                12950.50
                            304
                 8219.67
                                       16551.2294
                            162
                                   159
      1
[50]: # .mean () function is used for getting the mean or average of values
      # Here we find the average of fair given by or not given by users
```

Friends

Virat Tiwari

g.mean()

/tmp/ipykernel_249/1509484552.py:5: FutureWarning: The default value of numeric_only in DataFrameGroupBy.mean is deprecated. In a future version, numeric_only will default to False. Either specify numeric_only or select only columns which should be valid for the function.

g.mean()

[50]: Age SibSp Parch Fare Survived 0 30.615839 0.554745 0.330292 22.143558 1 28.343690 0.473684 0.464912 48.395408

[51]: df

[51]:						N	Jame S	Survived	Sex	\		
	0			0	male							
	1	Cumin	Cumings, Mrs. John Bradley (Florence Briggs Th 1									
	2		Heikkinen, Miss. Laina									
	3		Futrell	1	female							
	4				Mora	n, Mr. Ja	mes	0	male			
							•••	•••	••			
	885				Montvila,	Rev. Juc	zas	0	male			
	886				Graham, Miss. Ma	rgaret Ed	lith	1	female			
	887		Joh	nston,	Miss. Catherine He	len "Carr	rie"	0	female			
	888				Behr, Mr.	Karl How	rell	1	male			
	889				Dooley,	Mr. Patr	rick	0	male			
		Age	SibSp	Parch	Ticket	Fare	Cabin	Embarked	\			
	0	22.0	1	0	A/5 21171	7.2500	NaN	S				
	1	38.0	1	0	PC 17599	71.2833	C85	C				
	2	26.0	0	0	STON/02. 3101282	7.9250	NaN	S				
	3	35.0	1	0	113803	53.1000	C123	S				
	4	NaN	0	0	330877	8.4583	NaN	Q				
		•••		•	•••		•					
	885	27.0	0	0	211536	13.0000	NaN	S				
	886	19.0	0	0	112053	30.0000	B42	S				
	887	NaN	1	2	W./C. 6607	23.4500	NaN	S				
	888	26.0	0	0	111369	30.0000	C148	C				
	889	32.0	0	0	370376	7.7500	NaN	Q				

Friends

- 0 Virat Tiwari
- 1 Virat Tiwari
- 2 Virat Tiwari
- 3 Virat Tiwari
- 4 Virat Tiwari

```
885
         Virat Tiwari
      886 Virat Tiwari
      887 Virat Tiwari
      888 Virat Tiwari
      889 Virat Tiwari
      [890 rows x 11 columns]
     g1=df.groupby("Sex")
[53]:
      g1
[53]: <pandas.core.groupby.generic.DataFrameGroupBy object at 0x7f1d29869b70>
[54]:
     g1.median()
     /tmp/ipykernel_249/517914711.py:1: FutureWarning: The default value of
     numeric_only in DataFrameGroupBy.median is deprecated. In a future version,
     numeric_only will default to False. Either specify numeric_only or select only
     columns which should be valid for the function.
       g1.median()
[54]:
              Survived
                         Age SibSp Parch
                                                Fare
      Sex
      female
                        27.0
                                            23.00000
                   1.0
                                0.0
                                       0.0
                        29.0
     male
                   0.0
                                0.0
                                       0.0
                                            10.81665
```

[55]: g1.mean()

/tmp/ipykernel_249/3287460031.py:1: FutureWarning: The default value of numeric_only in DataFrameGroupBy.mean is deprecated. In a future version, numeric_only will default to False. Either specify numeric_only or select only columns which should be valid for the function.

g1.mean()

[55]: Survived Age SibSp Parch Fare Sex female 0.742038 27.915709 0.694268 0.649682 44.479818 male 0.189236 30.717190 0.430556 0.236111 25.554230

[56]: g1.max()

/tmp/ipykernel_249/130714741.py:1: FutureWarning: Dropping invalid columns in DataFrameGroupBy.max is deprecated. In a future version, a TypeError will be raised. Before calling .max, select only columns which should be valid for the function.

g1.max()

[56]: Name Survived Age SibSp \
Sex

female de Messemaeker, Mrs. Guillaume Joseph (Emma) 1 63.0 8 male van Melkebeke, Mr. Philemon 1 80.0 8

Parch Ticket Fare Friends

Sex

female 6 WE/P 5735 512.3292 Virat Tiwari male 5 WE/P 5735 512.3292 Virat Tiwari

[57]: g1.min()

/tmp/ipykernel_249/1946832900.py:1: FutureWarning: Dropping invalid columns in DataFrameGroupBy.min is deprecated. In a future version, a TypeError will be raised. Before calling .min, select only columns which should be valid for the function.

g1.min()

[57]: Name Survived Age SibSp Parch \

Sex

female Abbott, Mrs. Stanton (Rosa Hunt) 0 0.75 0 0 male Abbing, Mr. Anthony 0 0.42 0 0

Ticket Fare Friends

Sex

female 110152 6.75 Virat Tiwari male 110413 0.00 Virat Tiwari

[58]: g1.max()["Fare"]

/tmp/ipykernel_249/32325780.py:1: FutureWarning: Dropping invalid columns in DataFrameGroupBy.max is deprecated. In a future version, a TypeError will be raised. Before calling .max, select only columns which should be valid for the function.

g1.max()["Fare"]

[58]: Sex

female 512.3292 male 512.3292

Name: Fare, dtype: float64

[59]: g1.min()["Fare"]

/tmp/ipykernel_249/445149905.py:1: FutureWarning: Dropping invalid columns in DataFrameGroupBy.min is deprecated. In a future version, a TypeError will be raised. Before calling .min, select only columns which should be valid for the function.

g1.min()["Fare"]

```
[59]: Sex
```

female 6.75 male 0.00

Name: Fare, dtype: float64

[60]: # . T () - By using this function we have to transpose the data into 180 degree # We simply rotate the data into 180 degree g1.max().T

/tmp/ipykernel_249/615206830.py:5: FutureWarning: Dropping invalid columns in DataFrameGroupBy.max is deprecated. In a future version, a TypeError will be raised. Before calling .max, select only columns which should be valid for the function.

g1.max().T

[60]: Sex female \ de Messemaeker, Mrs. Guillaume Joseph (Emma) Name Survived 1 63.0 Age SibSp 8 Parch 6 Ticket WE/P 5735 Fare 512.3292 Friends Virat Tiwari

Sex male Name van Melkebeke, Mr. Philemon Survived Age 80.0 SibSp 8 Parch 5 WE/P 5735 Ticket 512.3292 Fare Virat Tiwari Friends

[61]: # It will transpose the data into row to column and column to raw g1.max().transpose()

/tmp/ipykernel_249/997338944.py:3: FutureWarning: Dropping invalid columns in DataFrameGroupBy.max is deprecated. In a future version, a TypeError will be raised. Before calling .max, select only columns which should be valid for the function.

g1.max().transpose()

```
[61]: Sex
                                                          female \
                 de Messemaeker, Mrs. Guillaume Joseph (Emma)
      Name
      Survived
                                                                1
      Age
                                                            63.0
      SibSp
                                                                8
      Parch
                                                                6
      Ticket
                                                       WE/P 5735
      Fare
                                                        512.3292
      Friends
                                                    Virat Tiwari
      Sex
                                          male
      Name
                 van Melkebeke, Mr. Philemon
      Survived
                                          80.0
      Age
      SibSp
                                             8
                                             5
      Parch
      Ticket
                                    WE/P 5735
      Fare
                                      512.3292
      Friends
                                 Virat Tiwari
[62]: df
[62]:
                                                                                 Sex \
                                                            Name
                                                                   Survived
                                        Braund, Mr. Owen Harris
      0
                                                                                male
      1
           Cumings, Mrs. John Bradley (Florence Briggs Th...
                                                                        1 female
      2
                                         Heikkinen, Miss. Laina
                                                                           1
                                                                              female
      3
                 Futrelle, Mrs. Jacques Heath (Lily May Peel)
                                                                           1
                                                                              female
      4
                                               Moran, Mr. James
                                                                           0
                                                                                male
      . .
      885
                                          Montvila, Rev. Juozas
                                                                           0
                                                                                male
                                  Graham, Miss. Margaret Edith
      886
                                                                             female
                                                                           1
                     Johnston, Miss. Catherine Helen "Carrie"
                                                                              female
      887
      888
                                          Behr, Mr. Karl Howell
                                                                                male
                                                                           1
      889
                                            Dooley, Mr. Patrick
                                                                           0
                                                                                male
                         Parch
                                                        Fare Cabin Embarked
             Age
                  SibSp
                                            Ticket
           22.0
                                                                            S
      0
                              0
                                         A/5 21171
                                                      7.2500
                                                                NaN
                      1
           38.0
                                                                            С
      1
                      1
                              0
                                          PC 17599
                                                     71.2833
                                                                C85
      2
           26.0
                      0
                                                                            S
                                 STON/02. 3101282
                                                      7.9250
                                                                NaN
      3
           35.0
                              0
                                            113803
                                                     53.1000
                                                              C123
                                                                            S
                      1
      4
            NaN
                      0
                              0
                                            330877
                                                      8.4583
                                                                NaN
                                                                            Q
      885
           27.0
                      0
                              0
                                            211536
                                                    13.0000
                                                                NaN
                                                                            S
      886
           19.0
                              0
                                                    30.0000
                                                                B42
                                                                            S
                      0
                                            112053
      887
            NaN
                      1
                              2
                                        W./C. 6607
                                                     23.4500
                                                                NaN
                                                                            S
      888
           26.0
                      0
                              0
                                                                            С
                                            111369
                                                     30.0000
                                                               C148
      889
           32.0
                      0
                              0
                                            370376
                                                      7.7500
                                                                NaN
                                                                            Q
```

```
0
           Virat Tiwari
           Virat Tiwari
      1
      2
           Virat Tiwari
           Virat Tiwari
      3
      4
           Virat Tiwari
          Virat Tiwari
      885
      886
          Virat Tiwari
           Virat Tiwari
      887
      888
          Virat Tiwari
      889
          Virat Tiwari
      [890 rows x 11 columns]
[63]: df5=df[["Name","Survived","Sex"]][0:5]
[64]: df6=df[["Name","Survived","Sex"]][5:10]
[65]: df5
[65]:
                                                        Name Survived
                                                                            Sex
                                    Braund, Mr. Owen Harris
      0
                                                                           male
         Cumings, Mrs. John Bradley (Florence Briggs Th ...
                                                                    1 female
      2
                                     Heikkinen, Miss. Laina
                                                                      1
                                                                         female
      3
              Futrelle, Mrs. Jacques Heath (Lily May Peel)
                                                                      1
                                                                         female
      4
                                            Moran, Mr. James
                                                                      0
                                                                           male
[66]: df6
[66]:
                                                        Name
                                                              Survived
                                                                            Sex
                                    McCarthy, Mr. Timothy J
      5
                                                                           male
                             Palsson, Master. Gosta Leonard
      6
                                                                           male
                                                                      0
      7
         Johnson, Mrs. Oscar W (Elisabeth Vilhelmina Berg)
                                                                         female
      8
                        Nasser, Mrs. Nicholas (Adele Achem)
                                                                      1
                                                                         female
      9
                            Sandstrom, Miss. Marguerite Rut
                                                                         female
[68]: pd.concat([df5,df6])
[68]:
                                                        Name
                                                              Survived
                                                                            Sex
                                    Braund, Mr. Owen Harris
                                                                           male
      0
         Cumings, Mrs. John Bradley (Florence Briggs Th ...
                                                                    1 female
      1
      2
                                     Heikkinen, Miss. Laina
                                                                      1 female
      3
              Futrelle, Mrs. Jacques Heath (Lily May Peel)
                                                                         female
                                                                      1
      4
                                           Moran, Mr. James
                                                                      0
                                                                           male
      5
                                    McCarthy, Mr. Timothy J
                                                                      0
                                                                           male
```

Friends

```
6
                             Palsson, Master. Gosta Leonard
                                                                            male
      7
         Johnson, Mrs. Oscar W (Elisabeth Vilhelmina Berg)
                                                                       1 female
      8
                        Nasser, Mrs. Nicholas (Adele Achem)
                                                                          female
      9
                                                                          female
                             Sandstrom, Miss. Marguerite Rut
[70]: d7=pd.concat([df5,df6],axis=1)
[73]: df.fillna("Virat",inplace=True)
[74]: df
[74]:
                                                           Name
                                                                  Survived
                                                                                Sex \
      0
                                       Braund, Mr. Owen Harris
                                                                               male
      1
           Cumings, Mrs. John Bradley (Florence Briggs Th...
                                                                       1 female
      2
                                        Heikkinen, Miss. Laina
                                                                            female
                                                                         1
      3
                 Futrelle, Mrs. Jacques Heath (Lily May Peel)
                                                                         1
                                                                            female
      4
                                                                               male
                                              Moran, Mr. James
                                                                         0
      . .
      885
                                         Montvila, Rev. Juozas
                                                                         0
                                                                               male
      886
                                  Graham, Miss. Margaret Edith
                                                                            female
                                                                         1
                     Johnston, Miss. Catherine Helen "Carrie"
      887
                                                                            female
      888
                                         Behr, Mr. Karl Howell
                                                                         1
                                                                               male
      889
                                           Dooley, Mr. Patrick
                                                                               male
                   SibSp
                          Parch
                                                              Cabin Embarked
             Age
                                            Ticket
                                                        Fare
      0
            22.0
                       1
                               0
                                         A/5 21171
                                                      7.2500
                                                              Virat
                                                                            S
            38.0
                                                                            С
      1
                       1
                               0
                                          PC 17599
                                                     71.2833
                                                                 C85
      2
            26.0
                       0
                              0
                                  STON/02. 3101282
                                                                             S
                                                      7.9250
                                                              Virat
      3
            35.0
                       1
                              0
                                            113803
                                                     53.1000
                                                                C123
                                                                             S
      4
                       0
                              0
                                                                             Q
           Virat
                                            330877
                                                      8.4583
                                                             Virat
      885
            27.0
                                                                            S
                       0
                              0
                                            211536
                                                     13.0000
                                                              Virat
                                                                             S
      886
            19.0
                       0
                               0
                                                     30.0000
                                                                 B42
                                            112053
                               2
                                                                            S
      887
           Virat
                       1
                                        W./C. 6607
                                                     23.4500
                                                              Virat
      888
            26.0
                       0
                                                                C148
                                                                             С
                              0
                                            111369
                                                     30.0000
      889
            32.0
                       0
                              0
                                            370376
                                                      7.7500
                                                              Virat
                                                                             Q
                Friends
      0
           Virat Tiwari
      1
           Virat Tiwari
      2
           Virat Tiwari
      3
           Virat Tiwari
           Virat Tiwari
      4
           Virat Tiwari
      885
           Virat Tiwari
      886
```

Virat Tiwari

```
888 Virat Tiwari
      889 Virat Tiwari
      [890 rows x 11 columns]
[86]: data1=pd.DataFrame({"Key1":[1,2,3,6,5,4],
                           "Key2": [9,8,7,6,4,5],
                           "Key3": [5,4,6,7,9,1]
      })
[87]: data1
[87]:
         Key1 Key2 Key3
      0
            1
                  9
                         5
      1
            2
                  8
                         4
      2
            3
                  7
                         6
      3
            6
                  6
                         7
      4
            5
                  4
                         9
      5
            4
                  5
                         1
[93]: data2=pd.DataFrame({"Key1":[9,2,3,6,5,5],
                           "Key5": [6,8,7,6,4,4],
                           "Key6": [2,4,6,7,9,3]
      })
[94]: data2
[94]:
         Key1 Key5 Key6
      0
            9
                  6
                         2
      1
            2
                  8
                         4
      2
            3
                  7
                         6
      3
            6
                  6
                         7
      4
            5
                  4
                         9
      5
            5
                  4
                         3
[95]: # Concatination operation
      df8=pd.concat([data1,data2],axis=1)
[96]: df8
[96]:
         Key1 Key2 Key3 Key1
                                        Key6
                                  Key5
      0
            1
                  9
                         5
                               9
                                     6
                                            4
      1
            2
                  8
                         4
                               2
                                     8
      2
            3
                  7
                         6
                               3
                                     7
                                            6
      3
            6
                  6
                         7
                               6
                                     6
                                            7
      4
            5
                  4
                         9
                               5
                                     4
                                            9
```

```
5
             4
                    5
                       1
                                 5
                                       4
                                              3
 [97]: # Merge operation
       pd.merge(data1,data2)
 [97]:
          Key1 Key2 Key3 Key5
                                    Key6
       0
             2
                    8
                          4
                                 8
                                       4
       1
             3
                    7
                          6
                                 7
                                       6
                                       7
       2
              6
                    6
                          7
                                 6
       3
             5
                    4
                          9
                                 4
                                       9
       4
             5
                    4
                          9
                                 4
                                       3
  []:
 [99]: pd.merge(data1,data2,how="left")
          Key1 Key2 Key3 Key5
 [99]:
                                    Key6
       0
              1
                    9
                          5
                               NaN
                                     NaN
       1
             2
                    8
                          4
                               8.0
                                     4.0
             3
       2
                          6
                              7.0
                                     6.0
       3
             6
                          7
                    6
                               6.0
                                     7.0
       4
             5
                    4
                          9
                               4.0
                                     9.0
       5
             5
                    4
                          9
                               4.0
                                     3.0
       6
              4
                    5
                          1
                               NaN
                                     NaN
[101]: pd.merge(data1,data2,how="right")
[101]:
                             Key5
          Key1 Key2 Key3
                                    Key6
       0
             9
                  NaN
                        NaN
                                 6
                                       2
       1
             2
                  8.0
                        4.0
                                       4
                                 8
       2
             3
                  7.0
                        6.0
                                 7
                                       6
       3
             6
                  6.0
                        7.0
                                 6
                                       7
       4
             5
                  4.0
                        9.0
                                 4
                                       9
       5
             5
                  4.0
                        9.0
                                 4
                                       3
[102]: data1
[102]:
          Key1 Key2
                       Key3
       0
             1
                    9
                          5
       1
             2
                    8
                          4
       2
             3
                    7
                          6
             6
                          7
       3
                    6
       4
             5
                    4
                          9
       5
             4
                    5
                          1
[103]: pd.merge(data1,data2,how="outer")
```

```
[103]:
           Key1 Key2 Key3 Key5 Key6
        0
               1
                    9.0
                            5.0
                                   {\tt NaN}
                                          {\tt NaN}
        1
               2
                    8.0
                            4.0
                                          4.0
                                   8.0
        2
                3
                    7.0
                            6.0
                                   7.0
                                          6.0
        3
                6
                    6.0
                            7.0
                                   6.0
                                          7.0
        4
               5
                    4.0
                            9.0
                                   4.0
                                          9.0
               5
        5
                    4.0
                            9.0
                                          3.0
                                   4.0
                    5.0
        6
                            1.0
                                          {\tt NaN}
                                   {\tt NaN}
        7
                9
                    {\tt NaN}
                            {\tt NaN}
                                   6.0
                                          2.0
```

[104]: pd.merge(data1,data2,how="cross")

[104]:	Key1_x	Key2	Key3	Key1_y	Key5	Key6
0	1	9	5	9	6	2
1	1	9	5	2	8	4
2	1	9	5	3	7	6
3	1	9	5	6	6	7
4	1	9	5	5	4	9
5	1	9	5	5	4	3
6	2	8	4	9	6	2
7	2	8	4	2	8	4
8	2	8	4	3	7	6
9	2	8	4	6	6	7
10	2	8	4	5	4	9
11	2	8	4	5	4	3
12	3	7	6	9	6	2
13	3	7	6	2	8	4
14	3	7	6	3	7	6
15	3	7	6	6	6	7
16	3	7	6	5	4	9
17	3	7	6	5	4	3
18	6	6	7	9	6	2
19	6	6	7	2	8	4
20	6	6	7	3	7	6
21	6	6	7	6	6	7
22	6	6	7	5	4	9
23	6	6	7	5	4	3
24	5	4	9	9	6	2
25	5	4	9	2	8	4
26	5	4	9	3	7	6
27	5	4	9	6	6	7
28	5	4	9	5	4	9
29	5	4	9	5	4	3
30	4	5	1	9	6	2
31	4	5	1	2	8	4
32	4	5	1	3	7	6
33	4	5	1	6	6	7

```
34
                 4
                        5
                               1
                                        5
                                              4
                                                     9
       35
                 4
                        5
                               1
                                        5
                                              4
                                                     3
[105]:
        data1
[105]:
           Key1
                 Key2
                        Key3
       0
              1
                     9
                           5
       1
              2
                     8
                           4
                     7
       2
              3
                           6
       3
              6
                     6
                           7
              5
       4
                     4
                           9
       5
              4
                     5
                           1
[106]: data2
[106]:
           Key1 Key5
                        Key6
              9
                     6
                           2
       0
              2
                     8
                           4
       1
       2
              3
                     7
                           6
       3
              6
                           7
                     6
              5
       4
                     4
                           9
       5
              5
                     4
                           3
[108]: pd.merge(data1,data2,how="outer",on="Key1")
[108]:
           Key1
                 Key2
                              Key5
                                     Key6
                        Key3
       0
                  9.0
                         5.0
              1
                                NaN
                                      NaN
              2
       1
                  8.0
                         4.0
                                8.0
                                      4.0
                  7.0
       2
              3
                         6.0
                                7.0
                                      6.0
       3
              6
                  6.0
                         7.0
                                6.0
                                      7.0
       4
              5
                  4.0
                         9.0
                                4.0
                                      9.0
       5
              5
                  4.0
                         9.0
                                4.0
                                      3.0
       6
              4
                  5.0
                         1.0
                                NaN
                                      NaN
       7
              9
                  NaN
                         {\tt NaN}
                                6.0
                                      2.0
[118]: data1=pd.DataFrame({"Key11":[1,2,3,6,5,4],
                              "Key22": [9,8,7,6,4,5],
                              "Key3"3: [5,4,6,7,9,1]},
                              index=["a","b","c","d","e","f"]
       )
[128]: data2=pd.DataFrame({"Key11":[9,2,3,6,5,5],
                              "Key55": [6,8,7,6,4,4],
                              "Key66": [2,4,6,7,9,3]},
                             index=["g","h","i","j","k","l"]
       )
```

```
[129]: data1
[129]:
          Key1
               Key2 Key3
             1
                    9
                          5
       a
             2
                          4
                    8
       b
             3
                    7
                          6
       С
       d
             6
                    6
                          7
             5
       е
                    4
                          9
       f
             4
                    5
                          1
[130]: data2
[130]:
          Key11
                 Key55
                         Key66
              9
                      6
                             2
       g
               2
                      8
                             4
       h
              3
                             6
       i
       j
              6
                      6
                             7
              5
                      4
                             9
       k
       1
              5
                      4
                             3
  []: # NOTE - JOIN () FUNCTION WORKS ON INDEX
       # NOTE - MERGE ( ) FUNCTION WORKS ON COLUMNS VALUES
[131]: data1.join(data2)
[131]:
          Key1 Key2 Key3 Key11 Key55
                                            Key66
             1
                    9
                          5
                               {\tt NaN}
                                       {\tt NaN}
                                              NaN
       a
             2
                               NaN
                                              NaN
                    8
                          4
                                       NaN
       b
             3
                    7
                               NaN
                                       NaN
                                              NaN
             6
                          7
                               NaN
                                              NaN
       d
                    6
                                       NaN
             5
       е
                    4
                          9
                               NaN
                                       NaN
                                              NaN
       f
             4
                    5
                          1
                               NaN
                                       NaN
                                              NaN
[135]: df9=data1.join(data2,how="right")
[136]: df9.fillna("Virat")
[136]:
                  Key2
                          Key3 Key11
                                       Key55
                                               Key66
           Key1
         Virat Virat Virat
                                     9
                                            6
       h Virat
                 Virat Virat
                                     2
                                            8
                                                    4
                                            7
                                                    6
       i Virat Virat Virat
                                     3
          Virat Virat Virat
                                     6
                                            6
                                                    7
                                            4
                                                    9
       k Virat Virat Virat
                                     5
       l Virat Virat Virat
                                     5
                                            4
                                                    3
[137]: df9=data1.join(data2,how="inner")
```

```
[138]: df9
[138]: Empty DataFrame
       Columns: [Key1, Key2, Key3, Key11, Key55, Key66]
       Index: []
[139]: df9=data1.join(data2,how="outer")
[140]: df9
[140]:
                       Key3 Key11
                                      Key55
                                             Key66
          Key1 Key2
           1.0
                  9.0
                         5.0
                                NaN
                                        NaN
                                                NaN
       a
           2.0
                         4.0
                                NaN
                                                NaN
                  8.0
                                        NaN
       b
                  7.0
                                NaN
       С
           3.0
                         6.0
                                        NaN
                                                NaN
       d
           6.0
                  6.0
                         7.0
                                NaN
                                        NaN
                                               NaN
           5.0
                  4.0
                         9.0
                                NaN
                                        NaN
                                               NaN
       e
       f
           4.0
                  5.0
                         1.0
                                NaN
                                        NaN
                                               NaN
           NaN
                  NaN
                        {\tt NaN}
                                9.0
                                        6.0
                                               2.0
       g
           NaN
                  NaN
                        {\tt NaN}
                                2.0
                                        8.0
                                                4.0
       h
       i
           NaN
                  NaN
                        NaN
                                3.0
                                        7.0
                                                6.0
       j
           NaN
                  NaN
                        {\tt NaN}
                                6.0
                                        6.0
                                               7.0
                                        4.0
       k
           NaN
                  NaN
                         NaN
                                5.0
                                                9.0
       1
           NaN
                  NaN
                         NaN
                                5.0
                                        4.0
                                                3.0
[141]: # NOTE - JOIN ( ) FUNCTION WORKS ON INDEX
       # NOTE - MERGE ( ) FUNCTION WORKS ON COLUMNS VALUES
[146]: df
[146]:
                                                              Name
                                                                    Survived
                                                                                   Sex
       0
                                         Braund, Mr. Owen Harris
                                                                                  male
       1
             Cumings, Mrs. John Bradley (Florence Briggs Th ...
                                                                          1 female
       2
                                          Heikkinen, Miss. Laina
                                                                            1
                                                                               female
       3
                  Futrelle, Mrs. Jacques Heath (Lily May Peel)
                                                                               female
                                                                            1
       4
                                                 Moran, Mr. James
                                                                                  male
                                                                            0
       885
                                           Montvila, Rev. Juozas
                                                                            0
                                                                                 male
       886
                                   Graham, Miss. Margaret Edith
                                                                            1
                                                                               female
       887
                      Johnston, Miss. Catherine Helen "Carrie"
                                                                               female
       888
                                           Behr, Mr. Karl Howell
                                                                            1
                                                                                 male
       889
                                             Dooley, Mr. Patrick
                                                                                 male
                    SibSp
                           Parch
                                                                 Cabin Embarked
               Age
                                              Ticket
                                                           Fare
       0
              22.0
                         1
                                0
                                           A/5 21171
                                                        7.2500
                                                                 Virat
                                                                               S
              38.0
                                                                               С
       1
                         1
                                0
                                            PC 17599
                                                       71.2833
                                                                   C85
       2
              26.0
                         0
                                   STON/02. 3101282
                                                        7.9250
                                                                Virat
                                                                               S
```

```
4
            Virat
                              0
                                            330877
                                                     8.4583 Virat
                                                                           Q
       . .
              •••
       885
             27.0
                       0
                              0
                                            211536
                                                    13.0000
                                                             Virat
                                                                           S
       886
             19.0
                       0
                              0
                                            112053
                                                    30.0000
                                                               B42
                                                                           S
       887
           Virat
                       1
                              2
                                        W./C. 6607
                                                    23.4500
                                                             Virat
                                                                           S
       888
             26.0
                       0
                              0
                                                    30.0000
                                                              C148
                                                                           C
                                            111369
             32.0
                              0
       889
                       0
                                            370376
                                                    7.7500 Virat
                                                                           Q
                 Friends
            Virat Tiwari
       0
       1
            Virat Tiwari
       2
            Virat Tiwari
       3
            Virat Tiwari
       4
            Virat Tiwari
       885 Virat Tiwari
       886 Virat Tiwari
       887 Virat Tiwari
       888 Virat Tiwari
       889 Virat Tiwari
       [890 rows x 11 columns]
[147]: # MOST IMPORTANT - NOW WE UNDERSTAND HOW WE CONVERT CURRENCY FROM ANOTHER
        \hookrightarrow CURRENCY
       # APPLY ( ) FUNCTION FOR DATA FRAME - BY USING THIS WE CAN PERFORM THE
        →CONVERTING OPERATION
[151]: # THIS IS HOW WE CONVERT THE CURRENCY
       # CASE 1 OR SIMPLE WAY TO CONVERSION
       df["Fare_INR"] = df["Fare"].apply(lambda x:x*80)
[152]: df.head()
[152]:
                                                        Name
                                                              Survived
                                                                            Sex
                                                                                   Age \
                                    Braund, Mr. Owen Harris
                                                                                  22.0
       0
                                                                           male
       1 Cumings, Mrs. John Bradley (Florence Briggs Th...
                                                                   1 female
                                                                                38.0
       2
                                      Heikkinen, Miss. Laina
                                                                     1 female
                                                                                  26.0
               Futrelle, Mrs. Jacques Heath (Lily May Peel)
       3
                                                                        female
                                                                                  35.0
                                                                     1
                                            Moran, Mr. James
                                                                           male
                                                                                Virat
          SibSp Parch
                                  Ticket
                                              Fare Cabin Embarked
                                                                          Friends \
                               A/5 21171
                                            7.2500 Virat
                                                                 S Virat Tiwari
       0
              1
```

113803 53.1000

C123

S

3

35.0

```
1
              1
                                 PC 17599 71.2833
                                                      C85
                                                                  C Virat Tiwari
       2
              0
                     0 STON/02. 3101282
                                            7.9250
                                                                  S Virat Tiwari
                                                    Virat
       3
              1
                                   113803
                                           53.1000
                                                      C123
                                                                  S Virat Tiwari
       4
              0
                                   330877
                                                                  Q Virat Tiwari
                                            8.4583
                                                    Virat
          Fare_INR
           580.000
       0
         5702.664
       1
       2
           634.000
       3 4248.000
           676.664
       4
[153]: # THIS IS HOW WE CONVERT THE CURRENCY
       # CASE 2 OR ANOTHER WAY TO CONVERSION
       def euro_to_INR(x):
           return x*80
       df["Fare_INR"] = df["Fare"].apply(lambda x:x*80)
[154]: df["Fare_INR"]
[154]: 0
               580.000
       1
              5702.664
               634.000
       2
       3
              4248.000
               676.664
       4
       885
              1040.000
              2400.000
       886
       887
              1876.000
       888
              2400.000
       889
               620.000
       Name: Fare_INR, Length: 890, dtype: float64
[156]: a=df.head()
[157]: a
[157]:
                                                         Name
                                                               Survived
                                                                            Sex
                                                                                    Age \
                                     Braund, Mr. Owen Harris
       0
                                                                           male
                                                                                   22.0
         Cumings, Mrs. John Bradley (Florence Briggs Th...
       1
                                                                    1 female
                                                                                38.0
                                      Heikkinen, Miss. Laina
       2
                                                                      1 female
                                                                                   26.0
       3
               Futrelle, Mrs. Jacques Heath (Lily May Peel)
                                                                      1 female
                                                                                   35.0
       4
                                            Moran, Mr. James
                                                                      0
                                                                           male Virat
```

```
0
              1
                                A/5 21171
                                            7.2500
                                                    Virat
                                                                  S Virat Tiwari
                                 PC 17599
                                                       C85
                                                                  C Virat Tiwari
       1
              1
                                           71.2833
       2
                        STON/02. 3101282
                                            7.9250
                                                    Virat
                                                                  S Virat Tiwari
                                                                  S Virat Tiwari
       3
              1
                     0
                                   113803
                                           53.1000
                                                     C123
       4
              0
                     0
                                   330877
                                            8.4583 Virat
                                                                  Q Virat Tiwari
          Fare INR
         580.000
       1 5702.664
          634.000
       3 4248.000
           676.664
[162]: | # .to_json() - By using this function we can save the data file into our local
        ⇔system
       a.to_json("Data_by_Virat.json")
[163]: df
[163]:
                                                           Name Survived
                                                                              Sex \
       0
                                       Braund, Mr. Owen Harris
                                                                             male
       1
            Cumings, Mrs. John Bradley (Florence Briggs Th...
                                                                      1 female
       2
                                        Heikkinen, Miss. Laina
                                                                        1 female
       3
                 Futrelle, Mrs. Jacques Heath (Lily May Peel)
                                                                        1 female
       4
                                              Moran, Mr. James
                                                                        0
                                                                             male
                                         Montvila, Rev. Juozas
       885
                                                                        0
                                                                             male
       886
                                  Graham, Miss. Margaret Edith
                                                                        1 female
                     Johnston, Miss. Catherine Helen "Carrie"
       887
                                                                        0 female
       888
                                         Behr, Mr. Karl Howell
                                                                             male
                                                                        1
       889
                                           Dooley, Mr. Patrick
                                                                             male
                   SibSp Parch
                                                        Fare Cabin Embarked \
              Age
                                            Ticket
       0
             22.0
                       1
                               0
                                         A/5 21171
                                                     7.2500
                                                             Virat
                                                                           S
                                                                           С
       1
             38.0
                       1
                               0
                                          PC 17599
                                                    71.2833
                                                                C85
       2
             26.0
                                  STON/02. 3101282
                                                                           S
                       0
                                                     7.9250
                                                              Virat
       3
             35.0
                       1
                                            113803
                                                    53.1000
                                                               C123
                                                                           S
                                            330877
                                                     8.4583 Virat
            Virat
                       0
                                                                           Q
              •••
             27.0
       885
                               0
                                            211536
                                                    13.0000
                                                                           S
                       0
                                                              Virat
       886
             19.0
                       0
                               0
                                            112053
                                                    30.0000
                                                                B42
                                                                           S
                       1
                               2
                                                                           S
       887
            Virat
                                        W./C. 6607
                                                     23.4500
                                                              Virat
       888
             26.0
                       0
                               0
                                            111369
                                                    30.0000
                                                               C148
                                                                            С
       889
             32.0
                                            370376
                                                     7.7500 Virat
```

Ticket

Fare

Cabin Embarked

Friends \

SibSp Parch

```
0
            Virat Tiwari
                           580.000
            Virat Tiwari
       1
                          5702.664
       2
            Virat Tiwari
                           634.000
            Virat Tiwari
       3
                         4248.000
       4
            Virat Tiwari
                           676.664
       885 Virat Tiwari
                          1040.000
       886 Virat Tiwari
                          2400.000
       887 Virat Tiwari
                          1876.000
       888 Virat Tiwari 2400.000
       889 Virat Tiwari
                           620.000
       [890 rows x 12 columns]
[164]: df["name_len"]=df["Name"].apply(len)
[165]: df.head()
[165]:
                                                        Name
                                                              Survived
                                                                            Sex
                                                                                   Age \
                                    Braund, Mr. Owen Harris
       0
                                                                          male
                                                                                  22.0
       1
         Cumings, Mrs. John Bradley (Florence Briggs Th...
                                                                   1 female
                                                                                38.0
                                     Heikkinen, Miss. Laina
                                                                     1 female
                                                                                  26.0
       3
               Futrelle, Mrs. Jacques Heath (Lily May Peel)
                                                                        female
                                                                                  35.0
                                            Moran, Mr. James
                                                                          male Virat
          SibSp Parch
                                  Ticket
                                             Fare Cabin Embarked
                                                                         Friends
                                                    Virat
       0
                               A/5 21171
                                            7.2500
                                                                 S Virat Tiwari
              1
                     0
                                                                 C Virat Tiwari
       1
              1
                     0
                                PC 17599
                                          71.2833
                                                      C85
       2
              0
                     0
                        STON/02. 3101282
                                           7.9250
                                                    Virat
                                                                 S Virat Tiwari
                                                                 S Virat Tiwari
       3
                     0
                                  113803 53.1000
                                                     C123
              1
       4
              0
                                  330877
                                            8.4583 Virat
                                                                 Q Virat Tiwari
          Fare_INR
                   name_len
       0
           580.000
                          23
       1 5702.664
                          51
       2
           634.000
                          22
       3 4248.000
                          44
           676.664
                          16
[166]: def cat_fare(x):
           if x<10:
               return "cheap"
           elif x>=10 and x<20:
               return "mid"
           else:
```

Friends Fare_INR

return "High" [172]: df ["car_fare"] = df ["Fare"] . apply(cat_fare) [173]: df [173]: Name Survived Sex 0 Braund, Mr. Owen Harris 0 male 1 Cumings, Mrs. John Bradley (Florence Briggs Th... 1 female 2 Heikkinen, Miss. Laina 1 female 3 Futrelle, Mrs. Jacques Heath (Lily May Peel) 1 female 4 Moran, Mr. James 0 male 885 Montvila, Rev. Juozas 0 male Graham, Miss. Margaret Edith female 886 887 Johnston, Miss. Catherine Helen "Carrie" female 888 Behr, Mr. Karl Howell male Dooley, Mr. Patrick 889 male SibSp Parch Ticket Fare Cabin Embarked Age 0 22.0 1 0 A/5 21171 7.2500 Virat S С 1 38.0 0 PC 17599 71.2833 C85 1 2 26.0 0 S 0 STON/02. 3101282 7.9250 Virat 3 35.0 1 0 113803 53.1000 C123 S 4 Virat 0 330877 8.4583 Virat Q ••• 885 27.0 0 0 211536 13.0000 Virat S 19.0 886 0 0 112053 30.0000 B42 S 887 Virat 1 2 W./C. 6607 23.4500 Virat S С 888 26.0 0 0 C148 111369 30.0000 889 32.0 0 0 370376 7.7500 Virat Q Friends Fare_INR name_len car_fare 0 Virat Tiwari 580.000 23 cheap Virat Tiwari 5702.664 1 51 High 2 Virat Tiwari 634.000 22 cheap 3 Virat Tiwari 4248.000 44 High 4 Virat Tiwari 676.664 16 cheap . . ••• 885 Virat Tiwari 1040.000 21 \mbox{mid} 886 Virat Tiwari 2400.000 28 High 887 Virat Tiwari 1876.000 40 High Virat Tiwari 888 2400.000 21 High 889 Virat Tiwari 620.000 19 cheap

[890 rows x 14 columns]

THANK YOU SO MUCH!!

YOURS VIRAT TIWARI :)