

In [2]:

```
import pandas as pd
```

In [5]:

```
df = pd.read_csv("Titanic - Titanic.csv")
df
titanic = df
titanic
```

Out[5]:

PassengerId	Survived	Pclass	Name	Sex	Age	SibSp	Parch	Ticket	Fare	Cabin	Embarked	
0	1	0	3	Braund, Mr. Owen Harris	male	22.0	1	0	A/5 21171	7.2500	NaN	S
1	2	1	1	Cumings, Mrs. John Bradley (Florence Briggs Th...	female	38.0	1	0	PC 17599	71.2833	C85	C
2	3	1	3	Heikkinen, Miss. Laina	female	26.0	0	0	STON/O2. 3101282	7.9250	NaN	S
3	4	1	1	Futrelle, Mrs. Jacques Heath (Lily May Peel)	female	35.0	1	0	113803	53.1000	C123	S
4	5	0	3	Allen, Mr. William Henry	male	35.0	0	0	373450	8.0500	NaN	S
...
886	887	0	2	Montvila, Rev. Juozas	male	27.0	0	0	211536	13.0000	NaN	S
887	888	1	1	Graham, Miss. Margaret Edith	female	19.0	0	0	112053	30.0000	B42	S
888	889	0	3	Johnston, Miss. Catherine Helen "Carrie"	female	NaN	1	2	W./C. 6607	23.4500	NaN	S
889	890	1	1	Behr, Mr. Karl Howell	male	26.0	0	0	111369	30.0000	C148	C
890	891	0	3	Dooley, Mr. Patrick	male	32.0	0	0	370376	7.7500	NaN	Q

891 rows x 12 columns

In [12]:

```
df.shape ##Rows n columns
```

Out[12]:

(891, 12)

In [6]:

```
df.size
```

Out[6]:

10692

In [7]:

```
df.size
```

Out[7]:

10692

In [8]:

```
df = pd.read_excel("nba.xlsx")
df
nba = df
nba
```

Out[8]:

	Name	Team	Number	Position	Age	Height	Weight	College	Salary
0	Avery Bradley	Boston Celtics	0	PG	25	2023-06-02 00:00:00	180	Texas	7730337.0
1	Jae Crowder	Boston Celtics	99	SF	25	2023-06-06 00:00:00	235	Marquette	6796117.0
2	John Holland	Boston Celtics	30	SG	27	2023-06-05 00:00:00	205	Boston University	NaN
3	R.J. Hunter	Boston Celtics	28	SG	22	2023-06-05 00:00:00	185	Georgia State	1148640.0
4	Jonas Jerebko	Boston Celtics	8	PF	29	2023-06-10 00:00:00	231	NaN	5000000.0
...
452	Trey Lyles	Utah Jazz	41	PF	20	2023-06-10 00:00:00	234	Kentucky	2239800.0
453	Shelvin Mack	Utah Jazz	8	PG	26	2023-06-03 00:00:00	203	Butler	2433333.0
454	Raul Neto	Utah Jazz	25	PG	24	2023-06-01 00:00:00	179	NaN	900000.0
455	Tibor Pleiss	Utah Jazz	21	C	26	2023-07-03 00:00:00	256	NaN	2900000.0
456	Jeff Withey	Utah Jazz	24	C	26		7-0	Kansas	947276.0

457 rows x 9 columns

In [23]:

```
df.size
```

Out[23]:

4113

Printing Head and tail of Datatset

In [29]:

```
df.head() ##First top 5 values
```

Out[29]:

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

In [13]:

```
df.tail() ##Last top 5 values
```

Out[13]:

	Name	Team	Number	Position	Age	Height	Weight	College	Salary	
452	Trey Lyles	Utah Jazz	41	PF	20	2023-06-10 00:00:00	234	Kentucky	2239800.0	
453	Shelvin Mack	Utah Jazz	8	PG	26	2023-06-03 00:00:00	203	Butler	2433333.0	
454	Raul Neto	Utah Jazz	25	PG	24	2023-06-01 00:00:00	179	NaN	900000.0	
455	Tibor Pleiss	Utah Jazz	21	C	26	2023-07-03 00:00:00	256	NaN	2900000.0	
456	Jeff Withey	Utah Jazz	24	C	26		7-0	231	Kansas	947276.0

In [32]:

```
print(df.head(-30))          ##All record except last 30 values/rows.
print(df.tail(-10))         ##All record except first 10 values/rows.
```

	PassengerId	Survived	Pclass	\								
0	1	0	3									
1	2	1	1									
2	3	1	3									
3	4	1	1									
4	5	0	3									
..									
856	857	1	1									
857	858	1	1									
858	859	1	3									
859	860	0	3									
860	861	0	3									
				Name	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	0					
..								
856				Wick, Mrs. George Dennick (Mary Hitchcock)	female	45.0	1					
857				Daly, Mr. Peter Denis	male	51.0	0					
858				Baclini, Mrs. Solomon (Latifa Qurban)	female	24.0	0					
859				Razi, Mr. Raihed	male	NaN	0					
860				Hansen, Mr. Claus Peter	male	41.0	2					
	Parch	Ticket	Fare	Cabin	Embarked							
0	0	A/5 21171	7.2500	NaN	S							
1	0	PC 17599	71.2833	C85	C							
2	0	STON/O2. 3101282	7.9250	NaN	S							
3	0	113803	53.1000	C123	S							
4	0	373450	8.0500	NaN	S							
..							
856	1	36928	164.8667	NaN	S							
857	0	113055	26.5500	E17	S							
858	3	2666	19.2583	NaN	C							
859	0	2629	7.2292	NaN	C							
860	0	350026	14.1083	NaN	S							
[861 rows x 12 columns]												
	PassengerId	Survived	Pclass	Name								
10	11	1	3	Sandstrom, Miss. Marguerite Rut								
11	12	1	1	Bonnell, Miss. Elizabeth								
12	13	0	3	Saundercock, Mr. William Henry								
13	14	0	3	Andersson, Mr. Anders Johan								
14	15	0	3	Vestrom, Miss. Hulda Amanda Adolfina								
..								
886	887	0	2	Montvila, Rev. Juozas								
887	888	1	1	Graham, Miss. Margaret Edith								
888	889	0	3	Johnston, Miss. Catherine Helen "Carrie"								
889	890	1	1	Behr, Mr. Karl Howell								
890	891	0	3	Dooley, Mr. Patrick								
	Sex	Age	SibSp	Parch	Ticket	Fare	Cabin	Embarked				
10	female	4.0	1	1	PP 9549	16.7000	G6	S				
11	female	58.0	0	0	113783	26.5500	C103	S				
12	male	20.0	0	0	A/5. 2151	8.0500	NaN	S				

13	male	39.0	1	5	347082	31.2750	NaN	S
14	female	14.0	0	0	350406	7.8542	NaN	S
..
886	male	27.0	0	0	211536	13.0000	NaN	S
887	female	19.0	0	0	112053	30.0000	B42	S
888	female	NaN	1	2	W./C. 6607	23.4500	NaN	S
889	male	26.0	0	0	111369	30.0000	C148	C
890	male	32.0	0	0	370376	7.7500	NaN	Q

[881 rows x 12 columns]

In [14]:

nba

Out[14]:

	Name	Team	Number	Position	Age	Height	Weight	College	Salary
0	Avery Bradley	Boston Celtics	0	PG	25	2023-06-02 00:00:00	180	Texas	7730337.0
1	Jae Crowder	Boston Celtics	99	SF	25	2023-06-06 00:00:00	235	Marquette	6796117.0
2	John Holland	Boston Celtics	30	SG	27	2023-06-05 00:00:00	205	Boston University	NaN
3	R.J. Hunter	Boston Celtics	28	SG	22	2023-06-05 00:00:00	185	Georgia State	1148640.0
4	Jonas Jerebko	Boston Celtics	8	PF	29	2023-06-10 00:00:00	231	NaN	5000000.0
...
452	Trey Lyles	Utah Jazz	41	PF	20	2023-06-10 00:00:00	234	Kentucky	2239800.0
453	Shelvin Mack	Utah Jazz	8	PG	26	2023-06-03 00:00:00	203	Butler	2433333.0
454	Raul Neto	Utah Jazz	25	PG	24	2023-06-01 00:00:00	179	NaN	900000.0
455	Tibor Pleiss	Utah Jazz	21	C	26	2023-07-03 00:00:00	256	NaN	2900000.0
456	Jeff Withey	Utah Jazz	24	C	26		7-0	Kansas	947276.0

457 rows x 9 columns

In [48]:

Select all rows excluding bottom 157 rows using head() function.
What is the salary in the last row?

nba
df.head(-157)

Out[48]:

	Name	Team	Number	Position	Age	Height	Weight	College	Salary
0	Avery Bradley	Boston Celtics	0	PG	25	2023-06-02 00:00:00	180	Texas	7730337.0
1	Jae Crowder	Boston Celtics	99	SF	25	2023-06-06 00:00:00	235	Marquette	6796117.0
2	John Holland	Boston Celtics	30	SG	27	2023-06-05 00:00:00	205	Boston University	NaN
3	R.J. Hunter	Boston Celtics	28	SG	22	2023-06-05 00:00:00	185	Georgia State	1148640.0
4	Jonas Jerebko	Boston Celtics	8	PF	29	2023-06-10 00:00:00	231	NaN	5000000.0
...
295	Kyle Anderson	San Antonio Spurs	1	SF	22	2023-06-09 00:00:00	230	UCLA	1142880.0
296	Matt Bonner	San Antonio Spurs	15	C	36	2023-06-10 00:00:00	235	Florida	947276.0
297	Boris Diaw	San Antonio Spurs	33	C	34	2023-06-08 00:00:00	250	NaN	7500000.0
298	Tim Duncan	San Antonio Spurs	21	C	40	2023-06-11 00:00:00	250	Wake Forest	5250000.0
299	Manu Ginobili	San Antonio Spurs	20	SG	38	2023-06-06 00:00:00	205	NaN	2814000.0

300 rows x 9 columns

In [64]:

```
df.head(17)
```

Out[64]:

	PassengerId	Survived	Pclass	Name	Sex	Age	SibSp	Parch	Ticket	Fare	Cabin	Embarked
0	1	0	3	Braund, Mr. Owen Harris	male	22.0	1	0	A/5 21171	7.2500	NaN	S
1	2	1	1	Cumings, Mrs. John Bradley (Florence Briggs Th...	female	38.0	1	0	PC 17599	71.2833	C85	C
2	3	1	3	Heikkinen, Miss. Laina	female	26.0	0	0	STON/O2. 3101282	7.9250	NaN	S
3	4	1	1	Futrelle, Mrs. Jacques Heath (Lily May Peel)	female	35.0	1	0	113803	53.1000	C123	S
4	5	0	3	Allen, Mr. William Henry	male	35.0	0	0	373450	8.0500	NaN	S
5	6	0	3	Moran, Mr. James	male	NaN	0	0	330877	8.4583	NaN	Q
6	7	0	1	McCarthy, Mr. Timothy J	male	54.0	0	0	17463	51.8625	E46	S
7	8	0	3	Palsson, Master. Gosta Leonard	male	2.0	3	1	349909	21.0750	NaN	S
8	9	1	3	Johnson, Mrs. Oscar W (Elisabeth Vilhelmina Berg)	female	27.0	0	2	347742	11.1333	NaN	S
9	10	1	2	Nasser, Mrs. Nicholas (Adele Achem)	female	14.0	1	0	237736	30.0708	NaN	C
10	11	1	3	Sandstrom, Miss. Marguerite Rut	female	4.0	1	1	PP 9549	16.7000	G6	S
11	12	1	1	Bonnell, Miss. Elizabeth	female	58.0	0	0	113783	26.5500	C103	S
12	13	0	3	Saunderscock, Mr. William Henry	male	20.0	0	0	A/5. 2151	8.0500	NaN	S
13	14	0	3	Andersson, Mr. Anders Johan	male	39.0	1	5	347082	31.2750	NaN	S
14	15	0	3	Vestrom, Miss. Hulda Amanda Adolfina	female	14.0	0	0	350406	7.8542	NaN	S
15	16	1	2	Hewlett, Mrs. (Mary D Kingcome)	female	55.0	0	0	248706	16.0000	NaN	S
16	17	0	3	Rice, Master. Eugene	male	2.0	4	1	382652	29.1250	NaN	Q

In [53]:

```
df.shape
```

Out[53]:

(457, 9)

In [15]:

```
df.memory_usage()
```

Out[15]:

Index 128
Name 3656
Team 3656
Number 3656
Position 3656

```
Age          3656
Height       3656
Weight       3656
College      3656
Salary       3656
dtype: int64
```

In [16]:

```
titanic
df.memory_usage()          ##Titanic dataset
```

Out[16]:

```
Index          128
Name           3656
Team           3656
Number         3656
Position       3656
Age            3656
Height         3656
Weight         3656
College        3656
Salary         3656
dtype: int64
```

In [74]:

```
print(df.memory_usage(index=False))
df.memory_usage().sum()          ##Titanic dataset
print("\n")
#Deep :-It introspect the data deeply
print(df.memory_usage(deep=True))
```

```
PassengerId    7128
Survived        7128
Pclass         7128
Name           7128
Sex            7128
Age            7128
SibSp          7128
Parch          7128
Ticket         7128
Fare           7128
Cabin          7128
Embarked       7128
dtype: int64
```

```
Index          128
PassengerId    7128
Survived        7128
Pclass         7128
Name          74813
Sex           54979
Age           7128
SibSp          7128
Parch          7128
Ticket        56802
Fare           7128
Cabin         34344
Embarked      51626
dtype: int64
```

In [91]:

```
df.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 457 entries, 0 to 456
Data columns (total 9 columns):
 #   Column      Non-Null Count  Dtype

```

```
-----
0   Name      457 non-null   object
1   Team      457 non-null   object
2   Number    457 non-null   int64
3   Position  457 non-null   object
4   Age       457 non-null   int64
5   Height    457 non-null   object
6   Weight    457 non-null   int64
7   College   373 non-null   object
8   Salary    446 non-null   float64
dtypes: float64(1), int64(3), object(5)
memory usage: 32.3+ KB
```

In [92]:

```
df.info(memory_usage="deep")
```

##Deeply information about dataframe

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 457 entries, 0 to 456
Data columns (total 9 columns):
#   Column      Non-Null Count  Dtype
---  -
0   Name        457 non-null   object
1   Team        457 non-null   object
2   Number      457 non-null   int64
3   Position    457 non-null   object
4   Age         457 non-null   int64
5   Height      457 non-null   object
6   Weight      457 non-null   int64
7   College     373 non-null   object
8   Salary      446 non-null   float64
dtypes: float64(1), int64(3), object(5)
memory usage: 156.3 KB
```

In [93]:

```
df = pd.read_excel("nba.xlsx")
df.memory_usage(deep=True)
```

Out[93]:

```
Index      128
Name       32008
Team       33405
Number     3656
Position   26885
Age        3656
Height     25740
Weight     3656
College    27236
Salary     3656
dtype: int64
```

In []: