

## DATA MANIPULATION

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In [2]: #Name : Shreya Sharma
#Roll no. : 46
#Sectin : 3B
#Date : 26/07/2024
```

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In [4]: #Aim : To perform operation on Data manipulation
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In [1]: import pandas as pd
```

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In [3]: import os
```

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In [5]: os.getcwd()
```

```
Out[5]: 'C:\\Users\\pravi'
```

```
In [7]: os.chdir('C:\\Users\\pravi\\Desktop')
```

```
In [9]: df=pd.read_csv("titanic.csv")
```

```
In [11]: df
```

```
Out[11]:
```

	pclass	survived	name	sex	age	sibsp	parch	ticket	fare	cabin	embarked	boat	body	home.dest
0	1.0	1.0	Allen, Miss. Elisabeth Walton	female	29.0000	0.0	0.0	24160	211.3375	B5	S	2	NaN	St Louis, MO
1	1.0	1.0	Allison, Master. Hudson Trevor	male	0.9167	1.0	2.0	113781	151.5500	C22 C26	S	11	NaN	Montreal, PQ / Chesterville, ON
2	1.0	0.0	Allison, Miss. Helen Loraine	female	2.0000	1.0	2.0	113781	151.5500	C22 C26	S	NaN	NaN	Montreal, PQ / Chesterville, ON
3	1.0	0.0	Allison, Mr. Hudson Joshua Creighton	male	30.0000	1.0	2.0	113781	151.5500	C22 C26	S	NaN	135.0	Montreal, PQ / Chesterville, ON
4	1.0	0.0	Allison, Mrs. Hudson J C (Bessie Waldo Daniels)	female	25.0000	1.0	2.0	113781	151.5500	C22 C26	S	NaN	NaN	Montreal, PQ / Chesterville, ON
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1305	3.0	0.0	Zabour, Miss. Thamine	female	NaN	1.0	0.0	2665	14.4542	NaN	C	NaN	NaN	NaN
1306	3.0	0.0	Zakarian, Mr. Mapriededer	male	26.5000	0.0	0.0	2656	7.2250	NaN	C	NaN	304.0	NaN
1307	3.0	0.0	Zakarian, Mr. Ortin	male	27.0000	0.0	0.0	2670	7.2250	NaN	C	NaN	NaN	NaN
1308	3.0	0.0	Zimmerman, Mr. Leo	male	29.0000	0.0	0.0	315082	7.8750	NaN	S	NaN	NaN	NaN
1309	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN

1310 rows × 14 columns

```
In [13]: df.head()
```

Out[13]:

	pclass	survived	name	sex	age	sibsp	parch	ticket	fare	cabin	embarked	boat	body	home.dest
0	1.0	1.0	Allen, Miss. Elisabeth Walton	female	29.0000	0.0	0.0	24160	211.3375	B5	S	2	NaN	St Louis, MO
1	1.0	1.0	Allison, Master. Hudson Trevor	male	0.9167	1.0	2.0	113781	151.5500	C22 C26	S	11	NaN	Montreal, PQ / Chesterville, ON
2	1.0	0.0	Allison, Miss. Helen Loraine	female	2.0000	1.0	2.0	113781	151.5500	C22 C26	S	NaN	NaN	Montreal, PQ / Chesterville, ON
3	1.0	0.0	Allison, Mr. Hudson Joshua Creighton	male	30.0000	1.0	2.0	113781	151.5500	C22 C26	S	NaN	135.0	Montreal, PQ / Chesterville, ON
4	1.0	0.0	Allison, Mrs. Hudson J C (Bessie Waldo Daniels)	female	25.0000	1.0	2.0	113781	151.5500	C22 C26	S	NaN	NaN	Montreal, PQ / Chesterville, ON

In [15]:

df.tail()

Out[15]:

	pclass	survived	name	sex	age	sibsp	parch	ticket	fare	cabin	embarked	boat	body	home.dest
1305	3.0	0.0	Zabour, Miss. Thamine	female	NaN	1.0	0.0	2665	14.4542	NaN	C	NaN	NaN	NaN
1306	3.0	0.0	Zakarian, Mr. Mapriededer	male	26.5	0.0	0.0	2656	7.2250	NaN	C	NaN	304.0	NaN
1307	3.0	0.0	Zakarian, Mr. Ortin	male	27.0	0.0	0.0	2670	7.2250	NaN	C	NaN	NaN	NaN
1308	3.0	0.0	Zimmerman, Mr. Leo	male	29.0	0.0	0.0	315082	7.8750	NaN	S	NaN	NaN	NaN
1309	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN

In [17]:

df.info()

<class 'pandas.core.frame.DataFrame'>  
RangeIndex: 1310 entries, 0 to 1309  
Data columns (total 14 columns):  
# Column Non-Null Count Dtype  
--- -  
0 pclass 1309 non-null float64  
1 survived 1309 non-null float64  
2 name 1309 non-null object  
3 sex 1309 non-null object  
4 age 1046 non-null float64  
5 sibsp 1309 non-null float64  
6 parch 1309 non-null float64  
7 ticket 1309 non-null object  
8 fare 1308 non-null float64  
9 cabin 295 non-null object  
10 embarked 1307 non-null object  
11 boat 486 non-null object  
12 body 121 non-null float64  
13 home.dest 745 non-null object  
dtypes: float64(7), object(7)  
memory usage: 143.4+ KB

In [19]:

df.describe()

Out[19]:

	pclass	survived	age	sibsp	parch	fare	body
count	1309.000000	1309.000000	1046.000000	1309.000000	1309.000000	1308.000000	121.000000
mean	2.294882	0.381971	29.881135	0.498854	0.385027	33.295479	160.809917
std	0.837836	0.486055	14.413500	1.041658	0.865560	51.758668	97.696922
min	1.000000	0.000000	0.166700	0.000000	0.000000	0.000000	1.000000
25%	2.000000	0.000000	21.000000	0.000000	0.000000	7.895800	72.000000
50%	3.000000	0.000000	28.000000	0.000000	0.000000	14.454200	155.000000
75%	3.000000	1.000000	39.000000	1.000000	0.000000	31.275000	256.000000
max	3.000000	1.000000	80.000000	8.000000	9.000000	512.329200	328.000000

```
In [21]: df.shape

Out[21]: (1310, 14)

In [23]: df.size

Out[23]: 18340

In [25]: df.ndim

Out[25]: 2

In [27]: df.columns

Out[27]: Index(['pclass', 'survived', 'name', 'sex', 'age', 'sibsp', 'parch', 'ticket',
              'fare', 'cabin', 'embarked', 'boat', 'body', 'home.dest'],
              dtype='object')

In [29]: df.drop(labels='age',axis=1)

Out[29]:
```

	pclass	survived	name	sex	sibsp	parch	ticket	fare	cabin	embarked	boat	body	home.dest
0	1.0	1.0	Allen, Miss. Elisabeth Walton	female	0.0	0.0	24160	211.3375	B5	S	2	NaN	St Louis, MO
1	1.0	1.0	Allison, Master. Hudson Trevor	male	1.0	2.0	113781	151.5500	C22 C26	S	11	NaN	Montreal, PQ / Chesterville, ON
2	1.0	0.0	Allison, Miss. Helen Loraine	female	1.0	2.0	113781	151.5500	C22 C26	S	NaN	NaN	Montreal, PQ / Chesterville, ON
3	1.0	0.0	Allison, Mr. Hudson Joshua Creighton	male	1.0	2.0	113781	151.5500	C22 C26	S	NaN	135.0	Montreal, PQ / Chesterville, ON
4	1.0	0.0	Allison, Mrs. Hudson J C (Bessie Waldo Daniels)	female	1.0	2.0	113781	151.5500	C22 C26	S	NaN	NaN	Montreal, PQ / Chesterville, ON
...	...	...	...	...	...	...	...	...	...	...	...	...	...
1305	3.0	0.0	Zabour, Miss. Thamine	female	1.0	0.0	2665	14.4542	NaN	C	NaN	NaN	NaN
1306	3.0	0.0	Zakarian, Mr. Mapriededer	male	0.0	0.0	2656	7.2250	NaN	C	NaN	304.0	NaN
1307	3.0	0.0	Zakarian, Mr. Ortin	male	0.0	0.0	2670	7.2250	NaN	C	NaN	NaN	NaN
1308	3.0	0.0	Zimmerman, Mr. Leo	male	0.0	0.0	315082	7.8750	NaN	S	NaN	NaN	NaN
1309	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN

1310 rows × 13 columns

```
In [31]: df.drop(labels=2,axis=0)
```

Out[31]:

	pclass	survived	name	sex	age	sibsp	parch	ticket	fare	cabin	embarked	boat	body	home.dest
0	1.0	1.0	Allen, Miss. Elisabeth Walton	female	29.0000	0.0	0.0	24160	211.3375	B5	S	2	NaN	St Louis, MO
1	1.0	1.0	Allison, Master. Hudson Trevor	male	0.9167	1.0	2.0	113781	151.5500	C22 C26	S	11	NaN	Montreal, PQ / Chesterville, ON
3	1.0	0.0	Allison, Mr. Hudson Joshua Creighton	male	30.0000	1.0	2.0	113781	151.5500	C22 C26	S	NaN	135.0	Montreal, PQ / Chesterville, ON
4	1.0	0.0	Allison, Mrs. Hudson J C (Bessie Waldo Daniels)	female	25.0000	1.0	2.0	113781	151.5500	C22 C26	S	NaN	NaN	Montreal, PQ / Chesterville, ON
5	1.0	1.0	Anderson, Mr. Harry	male	48.0000	0.0	0.0	19952	26.5500	E12	S	3	NaN	New York, NY
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1305	3.0	0.0	Zabour, Miss. Thamine	female	NaN	1.0	0.0	2665	14.4542	NaN	C	NaN	NaN	NaN
1306	3.0	0.0	Zakarian, Mr. Mapriededer	male	26.5000	0.0	0.0	2656	7.2250	NaN	C	NaN	304.0	NaN
1307	3.0	0.0	Zakarian, Mr. Ortin	male	27.0000	0.0	0.0	2670	7.2250	NaN	C	NaN	NaN	NaN
1308	3.0	0.0	Zimmerman, Mr. Leo	male	29.0000	0.0	0.0	315082	7.8750	NaN	S	NaN	NaN	NaN
1309	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN	NaN

1309 rows × 14 columns