

Rasineni Manoj  
manoj.21bce8519@vitapstudent.ac.in

In [1]:

```
import numpy as np
import pandas as pd
```

In [2]:

```
# Using numpy to generate a random array of shape (4,4)
data = np.random.rand(4, 4)

# Creating a DataFrame using the random data
df = pd.DataFrame(data, columns=['Feature1', 'Feature2', 'Feature3', 'Feature4'])
```

In [3]:

```
print(df)
```

	Feature1	Feature2	Feature3	Feature4
0	0.640394	0.592206	0.833549	0.486817
1	0.918379	0.152108	0.675998	0.496371
2	0.845991	0.342940	0.190268	0.123990
3	0.210905	0.625583	0.875434	0.388228

In [ ]:

In [4]:

```
#Renaming the task
df.columns = ['Random value 1', 'Random value 2', 'Random value 3', 'Random value 4']
```

In [5]:

```
print(df)
```

	Random value 1	Random value 2	Random value 3	Random value 4
0	0.640394	0.592206	0.833549	0.486817
1	0.918379	0.152108	0.675998	0.496371
2	0.845991	0.342940	0.190268	0.123990
3	0.210905	0.625583	0.875434	0.388228

In [6]:

```
statistics = df.describe()
print(statistics)
```

	Random value 1	Random value 2	Random value 3	Random value 4
count	4.000000	4.000000	4.000000	4.000000
mean	0.653917	0.428209	0.643812	0.373851
std	0.317949	0.223125	0.314318	0.173599
min	0.210905	0.152108	0.190268	0.123990
25%	0.533022	0.295232	0.554566	0.322169
50%	0.743193	0.467573	0.754774	0.437523
75%	0.864088	0.600551	0.844020	0.489205
max	0.918379	0.625583	0.875434	0.496371

In [8]:

```
# To check the null values
null_values = df.isnull().sum()
print("Null values in each column:\n", null_values)
```

Null values in each column:

```
Random value 1    0
Random value 2    0
Random value 3    0
Random value 4    0
dtype: int64
```

In [9]:

```
column_data_types = df.dtypes
print("\nData type of each column:\n", column_data_types)
```

Data type of each column:

```
Random value 1    float64
Random value 2    float64
Random value 3    float64
Random value 4    float64
dtype: object
```

In [10]:

```
#Location Method
selected_columns_loc = df.loc[:, ['Random value 2', 'Random value 3']]
print("Using .loc:\n", selected_columns_loc)
```

Using .loc:

	Random value 2	Random value 3
0	0.592206	0.833549
1	0.152108	0.675998
2	0.342940	0.190268
3	0.625583	0.875434

In [11]:

```
#Index Location Method
selected_columns_iloc = df.iloc[:, [1, 2]]
print("\nUsing .iloc:\n", selected_columns_iloc)
```

Using .iloc:

	Random value 2	Random value 3
0	0.592206	0.833549
1	0.152108	0.675998
2	0.342940	0.190268
3	0.625583	0.875434