

# Assignment-1

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AI ML Assignment 1	
Task - 1	Create a pandas dataframe (DataFrame name as 'df') with numpy random values (4 features and 4 observation)
Task - 2	Rename the task - 1 'df' dataframe column names to 'Random value 1', 'Random value 2', 'Random value 3' & 'Random value 4'
Task - 3	Find the descriptive statistics of the 'df' dataframe.
Task - 4	Check for the null values in 'df' and find the data type of the columns.
Task - 5	Display the 'Random value 2' & 'Random value 3' columns with location method and index location method.

## Task-1

```
#Creating the Data Frame
import pandas as pd
import numpy as np

num_rows = 4
num_columns = 4

data = np.random.rand(num_rows, num_columns)
df = pd.DataFrame(data)

print(df)
```

[1] ✓ 1.5s Python

...	0	1	2	3
0	0.046815	0.172553	0.019646	0.425866
1	0.522105	0.722803	0.484934	0.803386
2	0.757702	0.665697	0.471080	0.162039
3	0.608595	0.318545	0.106924	0.330947

## Task-2

```
#Renaming the Columns
df = pd.DataFrame(data, columns=['Random value 1',
| 'Random value 2', 'Random value 3', 'Random value 4'])
df
```

[2] ✓ 0.0s

...	Random value 1	Random value 2	Random value 3	Random value 4
0	0.046815	0.172553	0.019646	0.425866
1	0.522105	0.722803	0.484934	0.803386
2	0.757702	0.665697	0.471080	0.162039
3	0.608595	0.318545	0.106924	0.330947

### Task-3

```
[4] #Descriptive Statistics
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	0.588964	0.644685	0.642892	0.649618
std	0.335504	0.323730	0.362857	0.353778
min	0.157496	0.353534	0.158882	0.322787
25%	0.429244	0.376661	0.477150	0.354578
50%	0.627778	0.617371	0.714723	0.649476
75%	0.787498	0.885395	0.880465	0.944516
max	0.942805	0.990464	0.983238	0.976733

### Task-4

```
[3] #checking if there are any null values
df.isnull().sum()
```

```
✓ 0.0s
```

...	Random value 1	
	Random value 2	
	Random value 3	
	Random value 4	
	dtype: int64	

```
[4] #Data Types
df.dtypes
```

```
✓ 0.0s
```

...	Random value 1	
	Random value 2	
	Random value 3	
	Random value 4	
	dtype: object	

## Task-5

```
#Location Method
```

```
selected_columns_loc = df.loc[:, ['Random value 2', 'Random value 3']]
```

```
print(selected_columns_loc)
```

[7] ✓ 0.0s

...	Random value 2	Random value 3
0	0.172553	0.019646
1	0.722803	0.484934
2	0.665697	0.471080
3	0.318545	0.106924



```
#Index Location Method
```

```
selected_columns_iloc = df.iloc[:, [1, 2]]
```

```
print(selected_columns_iloc)
```

[8] ✓ 0.0s

...	Random value 2	Random value 3
0	0.172553	0.019646
1	0.722803	0.484934
2	0.665697	0.471080
3	0.318545	0.106924