

(Assignment 1) Rohan Sanjay Patil- 21BLC1085

```
#1 Create a pandas dataframe (Dataframe name as 'df') with numpy random values (4 features and 4 observation)
import numpy as np
import pandas as pd
num_features=4
num_observations=4
random_data=np.random.random((num_observations,num_features))
data_dict={
    'Feature1': random_data[:, 0],
    'Feature2': random_data[:, 1],
    'Feature3': random_data[:, 2],
    'Feature4': random_data[:, 3]
}
df=pd.DataFrame(data_dict)
print(df)
```

	Feature1	Feature2	Feature3	Feature4
0	0.381678	0.824555	0.721665	0.997434
1	0.966434	0.051926	0.613726	0.685141
2	0.539752	0.455488	0.670074	0.380299
3	0.419064	0.886495	0.378336	0.027153

```
#2 Rename the task - 1 'df' dataframe column names to 'Random value 1', 'Random value 2', 'Random value 3' & 'Random value 4'
data_dict = {
    'Random value 1': random_data[:, 0],
    'Random value 2': random_data[:, 1],
    'Random value 3': random_data[:, 2],
    'Random value 4': random_data[:, 3]
}

df = pd.DataFrame(data_dict)
df
```

	Random value 1	Random value 2	Random value 3	Random value 4
0	0.381678	0.824555	0.721665	0.997434
1	0.966434	0.051926	0.613726	0.685141
2	0.539752	0.455488	0.670074	0.380299
3	0.419064	0.886495	0.378336	0.027153

```
#3 Find the descriptive statistics of the 'df' dataframe.
descriptive_stats=df.describe()
print(descriptive_stats)
```

	Random value 1	Random value 2	Random value 3	Random value 4
count	4.000000	4.000000	4.000000	4.000000
mean	0.576732	0.554616	0.595950	0.522507
std	0.268415	0.385372	0.151625	0.415373
min	0.381678	0.051926	0.378336	0.027153
25%	0.409717	0.354597	0.554879	0.292013
50%	0.479408	0.640021	0.641900	0.532720
75%	0.646423	0.840040	0.682972	0.763214
max	0.966434	0.886495	0.721665	0.997434

```
#4 Check for the null values in 'df' and find the data type of the columns.
check_null=df.isnull().sum()
check_null
```

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

```
data_type=df.dtypes
data_type
```

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

```
#5 Display the 'Random value 2' & 'Random value 3' columns with location method and index location method.  
random_value_loc=df.loc[:,['Random value 2','Random value 3']]  
random_value_loc
```

	Random value 2	Random value 3
0	0.824555	0.721665
1	0.051926	0.613726
2	0.455488	0.670074
3	0.886495	0.378336

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

	Random value 2	Random value 3
0	0.824555	0.721665
1	0.051926	0.613726
2	0.455488	0.670074
3	0.886495	0.378336

```
observation=df.loc[2]  
observation
```

```
Random value 1    0.539752  
Random value 2    0.455488  
Random value 3    0.670074  
Random value 4    0.380299  
Name: 2, dtype: float64
```

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