Aassigment-1

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```
import pandas as pd
import numpy as np
#creating dataframe with random values
observations = 4
features = 4
values= np.random.rand(observations,features)
df=pd.DataFrame(values,columns=['feature1','feature2','feature3','feature4'])
print(df)
```

```
   feature1  feature2  feature3  feature4
0  0.564165  0.883706  0.786788  0.557377
1  0.296951  0.881807  0.059773  0.973890
2  0.232192  0.720838  0.987558  0.152017
3  0.342926  0.989488  0.216816  0.699597
```

```
#rename the previous columns in dataframe
new_columns={
    'feature1': 'Random Value 1',
    'feature2': 'Random Value 2',
    'feature3': 'Random Value 3',
    'feature4': 'Random Value 4'
}
df=df.rename(columns=new_columns)
print(df)
```

```
   Random Value 1  Random Value 2  Random Value 3  Random Value 4
0        0.564165        0.883706        0.786788        0.557377
1        0.296951        0.881807        0.059773        0.973890
2        0.232192        0.720838        0.987558        0.152017
3        0.342926        0.989488        0.216816        0.699597
```

```
#displaying descriptive statistics
descriptive_statistics=df.describe()
print(descriptive_statistics)
```

```
       Random Value 1  Random Value 2  Random Value 3  Random Value 4
count        4.000000        4.000000        4.000000        4.000000
mean         0.359058        0.868960        0.512734        0.595720
std          0.144085        0.110830        0.444711        0.342610
min          0.232192        0.720838        0.059773        0.152017
25%          0.280761        0.841565        0.177555        0.456037
50%          0.319938        0.882757        0.501802        0.628487
75%          0.398236        0.910152        0.836980        0.768170
max          0.564165        0.989488        0.987558        0.973890
```

```
#checking for null values
null_val=df.isnull()
print("Null values in data frame:\n")
print(null_val)
#finding the data type of the column
data_type=df.dtypes
print("\nData type of the data frame:\n")
print(data_type)
```

```
Null values in data frame:

   Random Value 1  Random Value 2  Random Value 3  Random Value 4
0           False           False           False           False
1           False           False           False           False
2           False           False           False           False
3           False           False           False           False

Data type of the data frame:

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

```
#display the 'Random Values 2' and 'Random Values 3' columns with location method and index method
random_values_2 = df.loc[:, 'Random Value 2']
```

```
random_values_3 = df.loc[:, 'Random Value 3']
print(df)
print("\nRandom values 2 with location and index:\n",random_values_2)
print("\nRandom values 3 with location and index:\n",random_values_3)
```

```
   Random Value 1  Random Value 2  Random Value 3  Random Value 4
0        0.564165        0.883706        0.786788        0.557377
1        0.296951        0.881807        0.059773        0.973890
2        0.232192        0.720838        0.987558        0.152017
3        0.342926        0.989488        0.216816        0.699597

Random values 2 with location and index:
 0    0.883706
1    0.881807
2    0.720838
3    0.989488
Name: Random Value 2, dtype: float64

Random values 3 with location and index:
 0    0.786788
1    0.059773
2    0.987558
3    0.216816
Name: Random Value 3, dtype: float64
```