```
import pandas as pd


import numpy as np


# Create a pandas DataFrame with random values


data = np.random.rand(4, 4)


df = pd.DataFrame(data, columns=['Random value 1','Random value 2','Random value 3','Random v


print("DataFrame:")
print(df)
```

```
DataFrame:
   Random value 1  Random value 2  Random value 3  Random value 4
0        0.966839        0.942914        0.451509        0.548092
1        0.255695        0.198777        0.510609        0.854671
2        0.064349        0.425622        0.953228        0.214654
3        0.107265        0.391547        0.589286        0.764702
```

```
# Display descriptive statistics of the DataFrame


descriptive_stats = df.describe()


print("\nDescriptive Statistics:")
print(descriptive_stats)
```

```
Descriptive Statistics:
       Random value 1  Random value 2  Random value 3  Random value 4
count        4.000000        4.000000        4.000000        4.000000
mean         0.348537        0.489715        0.626158        0.595530
std          0.420274        0.318213        0.225232        0.284658
min          0.064349        0.198777        0.451509        0.214654
25%          0.096536        0.343355        0.495834        0.464733
50%          0.181480        0.408585        0.549947        0.656397
75%          0.433481        0.554945        0.680271        0.787194
max          0.966839        0.942914        0.953228        0.854671
```

```
# Check for null values and data types of columns


null_values = df.isnull().sum()
data_types = df.dtypes
```

```
print("\nNull Values:")
print(null_values)
print("\nData Types:")
print(data_types)
```

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

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

```
# Display 'Random value 2' & 'Random value 3' columns using location and index methods


random_value_2_location = df.iloc[:, 1]
random_value_3_location = df.iloc[:, 2]
random_value_2_index = df['Random value 2']
random_value_3_index = df['Random value 3']


print("\nRandom value 2 (Location Method):")
print(random_value_2_location)
print("\nRandom value 3 (Location Method):")
print(random_value_3_location)
print("\nRandom value 2 (Index Method):")
print(random_value_2_index)
print("\nRandom value 3 (Index Method):")
print(random_value_3_index)
```

```
Random value 2 (Location Method):
0    0.942914
1    0.198777
2    0.425622
3    0.391547
Name: Random value 2, dtype: float64

Random value 3 (Location Method):
0    0.451509
1    0.510609
2    0.953228
3    0.589286
Name: Random value 3, dtype: float64

Random value 2 (Index Method):
```

```
0    0.942914
1    0.198777
2    0.425622
3    0.391547
Name: Random value 2, dtype: float64

Random value 3 (Index Method):
0    0.451509
1    0.510609
2    0.953228
3    0.589286
Name: Random value 3, dtype: float64
```

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