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

# Create a 4x4 NumPy array with random values
data = np.random.rand(4, 4)

# Create a DataFrame using the NumPy array
df = pd.DataFrame(data, columns=['Feature1', 'Feature2', 'Feature3',
'Feature4'])

# Display the DataFrame
print(df)
```

```
   Feature1  Feature2  Feature3  Feature4
0  0.567944  0.236428  0.323803  0.171618
1  0.650230  0.237395  0.013408  0.430357
2  0.082924  0.157168  0.551891  0.690256
3  0.786666  0.836997  0.726201  0.640364
```

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

# Create a 4x4 NumPy array with random values
data = np.random.rand(4, 4)

# Create a DataFrame using the NumPy array and assign original column
names
df = pd.DataFrame(data, columns=['Feature1', 'Feature2', 'Feature3',
'Feature4'])

# Rename the columns
df.rename(columns={'Feature1': 'random value 1', 'Feature2': 'random
value 2', 'Feature3': 'random value 3', 'Feature4': 'random value 4'},
inplace=True)

# Display the DataFrame with renamed columns
print(df)
```

```
   random value 1  random value 2  random value 3  random value 4
0        0.796304        0.452829        0.013356        0.361101
1        0.904684        0.195518        0.822503        0.115089
2        0.919084        0.950692        0.877149        0.575856
3        0.813102        0.136207        0.425434        0.500958
```

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```

```
names
df = pd.DataFrame(data, columns=['random value 1', 'random value 2',
'random value 3', 'random value 4'])

# Use the describe() method to get descriptive statistics
statistics = df.describe()

# Display the descriptive statistics
print(statistics)
```

```
       random value 1  random value 2  random value 3  random value 4
count        4.000000        4.000000        4.000000        4.000000
mean         0.697007        0.390400        0.185584        0.484452
std          0.315253        0.175335        0.120234        0.268070
min          0.298000        0.152801        0.070470        0.283464
25%          0.517730        0.311263        0.123810        0.283642
50%          0.765610        0.437571        0.159313        0.402207
75%          0.944886        0.516708        0.221087        0.603017
max          0.958807        0.533660        0.353241        0.849929
```

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# Create a DataFrame using the NumPy array and assign original column
names
df = pd.DataFrame(data, columns=['random value 1', 'random value 2',
'random value 3', 'random value 4'])

# Check for null values in the DataFrame
null_values = df.isnull().sum()

# Get the data types of the columns
data_types = df.dtypes

# Display the null values and data types
print("Null 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
```

```
# Using .loc[] method to select columns by label
selected_columns_loc = df.loc[:, ['random value 2', 'random value 3']]

# Display the selected columns
print("Using .loc[] method:")
print(selected_columns_loc)
```

```
Using .loc[] method:
   random value 2  random value 3
0        0.247223        0.904959
1        0.623176        0.098870
2        0.531525        0.071642
3        0.730794        0.666898
```

```
# Using .iloc[] method to select columns by index
selected_columns_iloc = df.iloc[:, [1, 2]]  # Column indices 1 and 2
correspond to 'random value 2' and 'random value 3'

# Display the selected columns
print("\nUsing .iloc[] method:")
print(selected_columns_iloc)
```

```
Using .iloc[] method:
   random value 2  random value 3
0        0.247223        0.904959
1        0.623176        0.098870
2        0.531525        0.071642
3        0.730794        0.666898
```