

# TASK-1

```
import pandas as pd
```

```
import numpy as np
```

```
np.random.seed(42)
```

```
data = np.random.randn(4, 4)
```

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

```
print(df)
```

	Feature 1	Feature 2	Feature 3	Feature 4
0	0.496714	-0.138264	0.647689	1.523030
1	-0.234153	-0.234137	1.579213	0.767435
2	-0.469474	0.542560	-0.463418	-0.465730
3	0.241962	-1.913280	-1.724918	-0.562288

# TASK-2

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

```
print(df)
```

	Random value 1	Random value 2	Random value 3	Random value 4
0	0.496714	-0.138264	0.647689	1.523030
1	-0.234153	-0.234137	1.579213	0.767435
2	-0.469474	0.542560	-0.463418	-0.465730
3	0.241962	-1.913280	-1.724918	-0.562288

# TASK-3

```
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	0.008762	-0.435780	0.009641	0.315612
std	0.439772	1.043924	1.426317	1.007175
min	-0.469474	-1.913280	-1.724918	-0.562288
25%	-0.292984	-0.653923	-0.778793	-0.489869
50%	0.003904	-0.186201	0.092135	0.150852
75%	0.305650	0.031942	0.880570	0.956334
max	0.496714	0.542560	1.579213	1.523030

# TASK-4

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

```
data_types = df.dtypes
```

```
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

# TASK-5

```
columns_loc = df.loc[:, ['Random value 2', 'Random value 3']]
print("Columns using .loc method:")
print(columns_loc)
```

Columns using .loc method:

	Random value 2	Random value 3
0	-0.138264	0.647689
1	-0.234137	1.579213
2	0.542560	-0.463418
3	-1.913280	-1.724918

```
columns_iloc = df.iloc[:, [1, 2]]
print("\nColumns using .iloc method:")
print(columns_iloc)
```

Columns using .iloc method:

	Random value 2	Random value 3
0	-0.138264	0.647689
1	-0.234137	1.579213
2	0.542560	-0.463418
3	-1.913280	-1.724918