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21BCE0959

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```
import pandas as pd
import numpy as np

# Task 1: Create a pandas dataframe
data = {
    'Feature1': np.random.rand(10),
    'Feature2': np.random.randint(1, 100, 10),
    'Feature3': np.random.choice(['A', 'B', 'C', 'D'], 10),
    'Feature4': np.random.randn(10),
    'Feature5': np.random.uniform(0, 1, 10)
}

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

	Feature1	Feature2	Feature3	Feature4	Feature5
0	0.739493	39	B	-2.209081	0.933679
1	0.055776	90	D	0.283296	0.116273
2	0.585586	72	A	0.240210	0.952893
3	0.065296	86	B	-0.097260	0.575096
4	0.119688	72	A	0.860834	0.052219
5	0.640211	27	B	0.909632	0.428420
6	0.483359	10	A	-1.350128	0.578097
7	0.063325	20	C	0.288137	0.420774
8	0.887235	99	C	1.739494	0.195495
9	0.315700	0	A	0.046722	0.846722

```
# Task 2: Check the info of 'df'
print("Task 2:")
print(df.info())
```

```
Task 2:
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 10 entries, 0 to 9
Data columns (total 5 columns):
 #   Column      Non-Null Count  Dtype
---  -
 0   Feature1    10 non-null     float64
 1   Feature2    10 non-null     int64
 2   Feature3    10 non-null     object
 3   Feature4    10 non-null     float64
 4   Feature5    10 non-null     float64
dtypes: float64(3), int64(1), object(1)
memory usage: 528.0+ bytes
None
```

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# Task 3: Check the descriptive statistics of 'df'
print("\nTask 3:")
print(df.describe())
```

Task 3:

	Feature1	Feature2	Feature4	Feature5
count	10.000000	10.000000	10.000000	10.000000
mean	0.428140	60.100000	-0.065065	0.509968
std	0.320513	32.814123	1.211821	0.329315
min	0.055776	10.000000	-2.209081	0.052219
25%	0.078894	30.000000	-1.011156	0.251814
50%	0.534472	72.000000	0.261753	0.501758
75%	0.641123	86.000000	0.717660	0.779574
max	0.887235	99.000000	1.739494	0.952893

```
# Task 4: Check the 4th index observation with 'loc' slicing operator
print("\nTask 4:")
print(df.loc[3]) # Note: Indexing is 0-based, so the 4th index is 3
```

Task 4:

Feature1	0.065296
Feature2	86
Feature3	B
Feature4	-0.09726
Feature5	0.575096

Name: 3, dtype: object

```
# Task 5: Check the null values in 'df'
print("\nTask 5:")
print(df.isnull().sum())
```

Task 5:

Feature1	0
Feature2	0
Feature3	0
Feature4	0
Feature5	0

dtype: int64