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Assignment 1

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import numpy as np
import pandas as pd

# Task 1: Create a pandas dataframe with numpy random values
data = np.random.randint(1, 101, size=(4, 4))
df = pd.DataFrame(data)
print("Task 1: DataFrame 'df' with random values:")
print(df)

# Task 2: Rename the dataframe columns
df.columns = ['Random value 1', 'Random value 2', 'Random value 3',
'Random value 4']
print("\n\nTask 2: Renamed DataFrame columns:")
print(df)


# Task 3: Find the descriptive statistics of the dataframe
descriptive_stats = df.describe()
print("\n\nTask 3: Descriptive statistics of 'df':")
print(descriptive_stats)

# Task 4: Check for null values and data types
null_values = df.isnull().sum()
data_types = df.dtypes
print("\n\nTask 4: Null values in 'df' and data types of columns:")
print("Null Values:")
print(null_values)
print("\nData Types:")
print(data_types)

# Task 5: Display 'Random value 2' & 'Random value 3' columns by
location
# Using column location
column_location = df[['Random value 2', 'Random value 3']]
print("\n\nTask 5: 'Random value 2' & 'Random value 3' columns using
location and index:")
print("Column Location:")
print(column_location)

# Using index location
index_location = df.iloc[:, 1:3]
print("\n\nIndex Location:")
print(index_location)
```

```
Task 1: DataFrame 'df' with random values:
    0   1   2   3
0  47  96  84  56
```

```
1  61  97  31  67
2  29  94  49  44
3   1  86   6   6


Task 2: Renamed DataFrame columns:
   Random value 1  Random value 2  Random value 3  Random value 4
0              47              96              84              56
1              61              97              31              67
2              29              94              49              44
3               1              86               6               6


Task 3: Descriptive statistics of 'df':
       Random value 1  Random value 2  Random value 3  Random value 4
count        4.000000         4.00000        4.000000        4.000000
mean        34.500000        93.25000       42.500000       43.250000
std         25.890796         4.99166       32.807519       26.550267
min          1.000000        86.00000        6.000000        6.000000
25%         22.000000        92.00000       24.750000       34.500000
50%         38.000000        95.00000       40.000000       50.000000
75%         50.500000        96.25000       57.750000       58.750000
max         61.000000        97.00000       84.000000       67.000000


Task 4: Null values in 'df' and data types of columns:
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    int32
Random value 2    int32
Random value 3    int32
Random value 4    int32
dtype: object


Task 5: 'Random value 2' & 'Random value 3' columns using location and
index:
Column Location:
   Random value 2  Random value 3
0              96              84
1              97              31
2              94              49
3              86               6
```

```
Index Location:
   Random value 2  Random value 3
0              96              84
1              97              31
2              94              49
3              86               6
```