

Assignment 1

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VIT-AP

```
import pandas as pd
import numpy as np
num_observation = 4
num_features = 4
random_values = np.random.rand(num_observation, num_features)
df = pd.DataFrame(random_values, columns=['F1', 'F2', 'F3', 'F4'])
print(df)

new_column_names = {
    'F1': 'Random Value 1',
    'F2': 'Random Value 2',
    'F3': 'Random Value 3',
    'F4': 'Random Value 4'
}
df = df.rename(columns=new_column_names)
print(df)

descriptive_stats = df.describe()
print(descriptive_stats)

null_values = df.isnull().sum()

data_types = df.dtypes
print("Null Values:")
print(null_values)
print("\nData Types:")
print(data_types)

random_value_2_loc = df.loc[:, 'Random Value 2']
random_value_3_loc = df.loc[:, 'Random Value 3']
print("Using .loc[:]:")
print(random_value_2_loc)
print(random_value_3_loc)
```

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↗
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	F1	F2	F3	F4
0	0.411461	0.604491	0.186199	0.945139
1	0.010765	0.806820	0.878565	0.096903
2	0.754730	0.620702	0.620575	0.401508
3	0.892342	0.313477	0.270856	0.743407

	Random Value 1	Random Value 2	Random Value 3	Random Value 4
0	0.411461	0.604491	0.186199	0.945139
1	0.010765	0.806820	0.878565	0.096903
2	0.754730	0.620702	0.620575	0.401508
3	0.892342	0.313477	0.270856	0.743407

	Random Value 1	Random Value 2	Random Value 3	Random Value 4
count	4.000000	4.000000	4.000000	4.000000
mean	0.517325	0.586373	0.489049	0.546739
std	0.393620	0.203778	0.320598	0.374542
min	0.010765	0.313477	0.186199	0.096903
25%	0.311287	0.531738	0.249692	0.325357
50%	0.583096	0.612596	0.445716	0.572458
75%	0.789133	0.667231	0.685073	0.793840
max	0.892342	0.806820	0.878565	0.945139

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[:]:

0	0.604491
1	0.806820
2	0.620702
3	0.313477

Name: Random Value 2, dtype: float64

0	0.186199
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```
1 0.878565
2 0.620575
3 0.270856
Name: Random Value 3, dtype: float64
```

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