

# SHREY GUPTA, 21 BCE 2630, VIT VELLORE, AIML, ASSIGNMENT 1

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Assignment 1_21BCE2630.ipynb ☆
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import numpy as np
import pandas as pd

# Task 1
data = np.random.rand(4, 4)
df = pd.DataFrame(data, columns=['Random value 1', 'Random value 2', 'Random value 3', 'Random value 4'])

# Task 2
new_column_names = ['Random value 1', 'Random value 2', 'Random value 3', 'Random value 4']
df.columns = new_column_names

# Task 3
descriptive_stats = df.describe()

# Task 4
null_values = df.isnull().sum()
data_types = df.dtypes

# Task 5
random_value_2_loc = df.loc[:, 'Random value 2']
random_value_3_loc = df.loc[:, 'Random value 3']

random_value_2_index_loc = df.iloc[:, 1]
random_value_3_index_loc = df.iloc[:, 2]

print("Task 1 - DataFrame:")
print(df)
print("\nTask 2 - DataFrame with updated column names:")
print(df)
print("\nTask 3 - Descriptive Statistics:")
print(descriptive_stats)
print("\nTask 4 - Null Values and Data Types:")
print("Null Values:")
print(null_values)
print("\nData Types:")
print(data_types)
print("\nTask 5 - 'Random value 2' & 'Random value 3' Columns:")
print("Using .loc[:]:")
print(random_value_2_loc)
print(random_value_3_loc)
print("\nUsing .iloc[:]:")
print(random_value_2_index_loc)
print(random_value_3_index_loc)
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Task 1 - DataFrame:
Random value 1 Random value 2 Random value 3 Random value 4
0 0.794911 0.560900 0.150749 0.201148
1 0.557819 0.065422 0.153355 0.025141
2 0.397890 0.762421 0.196571 0.814892
3 0.664136 0.758277 0.194065 0.267812

Task 2 - DataFrame with updated column names:
Random value 1 Random value 2 Random value 3 Random value 4
0 0.794911 0.560900 0.150749 0.201148
1 0.557819 0.065422 0.153355 0.025141
2 0.397890 0.762421 0.196571 0.814892
3 0.664136 0.758277 0.194065 0.267812

Task 3 - Descriptive Statistics:
Random value 1 Random value 2 Random value 3 Random value 4
count 4.000000 4.000000 4.000000 4.000000
mean 0.603689 0.536755 0.173685 0.327248
std 0.168005 0.327991 0.025023 0.340832
min 0.397890 0.065422 0.150749 0.025141
25% 0.517837 0.437030 0.152704 0.157146
50% 0.610977 0.659588 0.173710 0.234480
75% 0.696830 0.759313 0.194692 0.404582
max 0.794911 0.762421 0.196571 0.814892

Task 4 - Null Values and 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
```



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[1] Task 5 - 'Random value 2' & 'Random value 3' Columns:
Using .loc[:]:
0    0.560900
1    0.065422
2    0.762421
3    0.758277
Name: Random value 2, dtype: float64

0    0.150749
1    0.153355
2    0.196571
3    0.194065
Name: Random value 3, dtype: float64

Using .iloc[:]:
0    0.560900
1    0.065422
2    0.762421
3    0.758277
Name: Random value 2, dtype: float64

0    0.150749
1    0.153355
2    0.196571
3    0.194065
Name: Random value 3, dtype: float64
```