1.Create a pandas dataftame(Dataframe name is df) with numpy random values(4 features and 4 observations)

Import pandas as pd

Import numpy as np

#using numpy's randint

df = pd.DataFrame(np.random.randint(0,100,size=(4, 4)),

A B C D

0 91 96 36 89

1 17 18 40 97

2 38 12 22 63

3 38 13 17 96

2.Rename the task-1 ‘df’ dataframe coloum to ‘Random value 1’,’Ramdom value 2’,Random value 3’&Random value 4’

Import pandas as pd

Import numpy as np

#using numpy’s randint

df = pd.DataFrame(np.random.randint(0,100,size=(4, 4)),

df1[‘random value1] = np.random.randint(0, df1),

df2[‘random value2] = np.random.randint(1, df2),

df3[‘random value3] = np.random.randint(2, df3),

df4[‘random value4] = np.random.randint(3,df4),

3.Find the descriptive statistics of ‘df’ dataframe

Step 1: Collect the Data

To start, you’ll need to collect the data for your DataFrame.

For example, here is a simple dataset that can be used for our DataFrame:

Product price year

A 22000 2014

B 27000 2015

C 25000 2016

C 29000 2017

D 35000 2018

Step 2: Create the DataFrame

Next, create the DataFrame based on the data collected.

Here is the code to create the DataFrame for our example:

Import pandas as pd

Data = {‘product’: [‘A’, ‘B’, ‘C’, ‘C’, ‘D’],

‘price’: [22000, 27000, 25000, 29000, 35000],

‘year’: [2014, 2015, 2016, 2017, 2018]

}

df = pd.DataFrame(data)

Print(df)

Run the code in Python, and you’ll get the following DataFrame:

Product price year

1. A 22000 2014
2. 1 B 27000 2015
3. C 25000 2016
4. 3 C 29000 2017
5. D 35000 2018

Step 3: Get the Descriptive Statistics for Pandas DataFrame

Once you have your DataFrame ready, you’ll be able to get the descriptive statistics using the template that you saw at the beginning of this guide:

df[‘dataframe\_column’].describe()

Let’s say that you want to get the descriptive statistics for the ‘price‘ field, which contains numerical data. In that case, the syntax that you’ll need to apply is:

Df[‘price’].describe()

So the complete Python code would look like this:

Import pandas as pd

Data = {‘product’: [‘A’, ‘B’, ‘C’, ‘C’, ‘D’],

‘price’: [22000, 27000, 25000, 29000, 35000],

‘year’: [2014, 2015, 2016, 2017, 2018]

}

df = pd.DataFrame(data)

Stats\_numeric = df[‘price’].describe()

Print(stats\_numeric)

Once you run the code, you’ll get the descriptive statistics for the ‘price’ field:

Count 5.000000

Mean 27600.000000

Std 4878.524367

Min 22000.000000

25% 25000.000000

50% 27000.000000

75% 29000.000000

Max 35000.000000

Name: price, dtype: float64

4.Check for the null values in ‘df’ and find the data type of the columns

To check for null values in a pandas DataFrame, we can use the isnull() method. The isnull() method returns a DataFrame of the same shape as the input DataFrame, but with boolean values indicating whether each cell is null or not.

Import pandas as pd

# create a sample DataFrame

df = pd.DataFrame({‘col1’: [1, 2, None], ‘col2’: [3, None, 5]})

# check for null values

Null\_df = df.isnull()

Print(null\_df)

Output:

Col1 col2

1. False False
2. 1 False True
3. True False

5.Display the ‘Random value2’ and ‘Random value3’ columns with location method and index location method

To display the ‘Random value2’ and ‘Random value3’ columns with the location method and index location method, you can use the following code:

```python

# Assuming you have a DataFrame called ‘df’

Df[[‘Random value2’, ‘Random value3’]].loc[:, [‘location’, ‘index location’]]

```

This code will select the ‘Random value2’ and ‘Random value3’ columns and display them using both the location method and index location method. Let me know if you have any other questions!