NUMPY PANDAS MATPLOTLIB 2

29-jan-2025
Instructions:
Name must be written in markdown for every code file.
Graph should be cleanly arranged with suitable labels, legends and titles wherever required.

* Required

* This form will record your name, please fill your name.

1

What is the output of the pd.concat([df1, df5], axis = 1) *

df1

	A	B	C	D
0	A0	B0	C0	D0
1	A1	B1	C1	D1
2	A2	B2	C2	D2
3	A3	B3	C3	D3

df5

	A	B	E
0	A4	B4	D4
1	A5	B5	D5

	A	B	C	D	A	B	
0	A0	B0	C0	D0	A4	B4	
1	A1	B1	C1	D1	A5	B5	
2	A2	B2	C2	D2	NaN	NaN	N

◯ Option 1

	A	B	E	A	B	C
0	A4	B4	D4	A0	B0	C0
1	A5	B5	D5	A1	B1	C1
2	NaN	NaN	NaN	A2	B2	C2
3	NaN	NaN	NaN	A3	B3	C3

◯ Option 2

K0	A0	B0	C0	[
K1	A1	B1	NaN	Na
K2	A2	B2	C2	[

◯ Option 3

◯ Error due to mismatch in the column name

2

To sort the DataFrame in Pandas, use the ____ method *

- sort()
- sort_values()
- sorting()
- value_counts()

3

what is the output of following
from numpy import random
x = random.randint(100)
print(x) *

- print the array data from 0 to 99
- print the array data from 1 to 100
- any single number between 0 to 99
- any single number between 1 to 100

4

what is the output of following *

```
import numpy as np

x = np.array([[0, 1],
              [2, 3]])
np.transpose(x)
```

- array([[0,2],[1,3]])
- array([[0,1],[2,3]])
- array([[0,3],[2,1]])
- array([[3,0],[1,2]])

5

what is True statement based on following statementnp.random.normal(15, 2, size=(3, 4))

- generate the array of 3 rows and 4 columns of any normal number
- Generate the array of 4 rows and 3 columns of data having center as 15 and deviated by 2 units
- Generate the array of 3 rows and 4 columns of data having center as 15 and deviated by 2 units
- Generate the array of 4 rows and 3 columns of data having center as 2 and deviated by 15 units

6

How to retrieve the data on index A if dataframe series is created based on following code *

```
import pandas as pd
ser = pd.Series(
    ["a", "b", "c", "d", "e", "f"],
    index=pd.MultiIndex.from_arrays([["A", "B", "C"] * 2, [1, 2, 3, 4, 5, 6]], names=["Let", "Num"]))
```

- ser.loc[['A']]
- ser.loc[['A'], :]
- ser.loc['A', :]
- All of the above

7

To remove duplicates from rows in Pandas, use the ____ method. *

- duplicate()
- drop_duplicate()
- drop_duplicates()
- drop_duplicated()

8

The _____ method is used in Pandas to search for a value in a column. *

- search()
- contains()
- contain()
- find()

9

```
import numpy as np
  a = np.array([(10,20,30)])
print(a.itemsize) *
```

- 4
- 8
- 1
- 3

10

which is the true statement about the following code
df.join(other, lsuffix='_caller', rsuffix='_other') *

- [ ] joins two data frame based on common index
- [ ] joins the two data frame based on common column
- [ ] add _caller at the end of common column name of left data frame
- [ ] add _other at the end of common column name of right data frame

11

___ is used for Type casting in Numpy *

- ◯ astype()
- ◯ dtypes()
- ◯ int(), float()
- ◯ dtype

12

what is the output of np.amin(arr2, axis =0) for following arr2 *

```
array([[1, 3, 1, 3],
       [3, 4, 3, 2],
       [4, 4, 1, 4],
       [3, 1, 3, 4]])
```

- ◯ 2, 3, 3.1, 2.5
- ◯ 1, 1, 1, 2
- ◯ 1, 2, 1, 1
- ◯ 2.5, 3, 2, 3.1

13

xytext is the parameter in annotate() is used for : *

- ◯ displaying x, y position of the arraow
- ◯ displaying the x , y position of the text
- ◯ accept the transperant colour of the text
- ◯ Explain the property of arraow

14

If the column is having datetime data type then null values are mentioned as *

- NaT
- Nan
- object
- pd.NA

15

How do you set a title for a plot using matplotlib library? *

- plt.set.title("Title")
- plt.Title("Title")
- plt.title("Title")
- plt.set_title("Title")

16

Point out the wrong statement. *

- Series can be be passed into most NumPy methods expecting an ndarray
- A DataFrame is like a fixed-size dict in that you can get and set values by index label
- A key difference between Series and ndarray is that operations between Series automatically align the data based on label
- None of the mentioned

17

How to create a subplot in a figure with three plots side by side and two rows of subplots? *

- ax1 = fig.add_subplot(123)
- ax1 = fig.add_subplot(132)
- ax1 = fig.add_subplot(231)
- ax1 = fig.add_subplot(321)

18

What is the function for creating a horizontal bar plot? *

- plt.hbar(x, y)
- plt.barh(x, y)
- plt.bar_h(x, y)
- plt.bar_hor(x, y)

19

Which line of code would create a line plot in form of red squares with x = x and y = y? *

- ax.plot(x, y, 'red', marker = 'square')
- ax.plot(x, y, 'R-', marker = 'sqr')
- ax.plot(x, y, 'r', 's')
- ax.plot(x, y, 'r-', marker = 's')

20

which is the outcome of following code *

```
for i in new_df.itertuples():
    print(i)
```

- Iterate the data over the columns
- Iterate the data over rows
- Iterate data based on index
- Both a and b

21

Q1. Read the ship_fuel_efficiency.csv data from the dataset and and generate a suitable graph for ship type wise weather condition wise average engine efficiency display average distance covered in each type
Q2. Generate the following graphs and arrange them as a dashboard in subplot format: a) box plot for fuel consumption and CO2 emission b) month wise CO2 emission c) plot the regression graph for distance against fuel consumption

Q3. a) Which is the longest route b) Which ship id is done maximum service
Q4. Perform the descriptive statistic and conclude the data
Q5. Which fuel type covers more distance in less CO2 emission *

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