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**NPTEL** (<https://swayam.gov.in/explorer?ncCode=NPTEL>) » **Python for Data Science (course)**

 Announcements (announcements)    **About the Course** ([https://swayam.gov.in/nd1\\_noc19\\_cs59/preview](https://swayam.gov.in/nd1_noc19_cs59/preview))

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## Unit 4 - Week 2

### Course outline

#### How to access the portal?

#### Week 0

#### Week 1

#### Week 2

- Lists Part -1 (unit? unit=18&lesson=22)
- Lists Part -2 (unit? unit=18&lesson=31)
- Tuples (unit? unit=18&lesson=23)
- Dictionary (unit? unit=18&lesson=24)
- Sets (unit? unit=18&lesson=25)
- Numpy Part -1 (unit? unit=18&lesson=26)
- Numpy Part -2 (unit? unit=18&lesson=27)

## Assignment 2

 The due date for submitting this assignment has passed. **Due on 2019-09-11, 23:59 IST.**
**Assignment submitted on 2019-09-11, 21:27 IST**

1) Package that deals with dataframe is

**1 point**

- ☐ numpy  
☐ dataframe  
☒ pandas  
☐ math

Yes, the answer is correct.

Score: 1

Accepted Answers:

*pandas*

2) The data type of the following python object 'a' is: a={23, 24, 25, 26, 27}

**1 point**

- ☐ list  
☐ dictionary  
☒ set  
☐ arrays

Yes, the answer is correct.

Score: 1

Accepted Answers:

*set*

3) Variable 'a' is defined as

**1 point**
**a = 'gOOd moRning'**

Command to convert 'a' from 'gOOd moRning' to 'Good Morning' is:-

- ☐ a.upper( )

Matrix (unit?  
unit=18&lesson=28)

Linear algebra  
Part -1 (unit?  
unit=18&lesson=29)

Linear algebra  
Part -2 (unit?  
unit=18&lesson=30)

**Quiz :**  
**Assignment 2**  
**(assessment?**  
**name=19)**

Week 2  
Feedback (unit?  
unit=18&lesson=61)

Week 2: Lecture  
slides (unit?  
unit=18&lesson=64)

Assignment 2  
solutions (unit?  
unit=18&lesson=67)

### Week 3

### Supporting material for Week 4

### Week 4

### DOWNLOAD VIDEOS

- ☐ a.lower( )  
☐ a.string( )  
☒ a.title( )

Yes, the answer is correct.  
Score: 1

Accepted Answers:  
*a.title( )*

4) Which of the following python data structure is immutable?

**1 point**

- ☐ list  
☐ dictionary  
☒ tuple  
☐ array

Yes, the answer is correct.  
Score: 1

Accepted Answers:  
*tuple*

5) Identify the braces used to create a **dictionary** in Python.

**1 point**

- ☐ ( )  
☒ { }  
☐ [ ]  
☐ All of the above

Yes, the answer is correct.  
Score: 1

Accepted Answers:  
*{ }*

6) The command used to add elements to a **list**

**1 point**

- ☐ append( )  
☐ extend( )  
☐ insert( )  
☒ all of the above( )

Yes, the answer is correct.  
Score: 1

Accepted Answers:  
*all of the above( )*

Using the list '**Stationery**' answer questions 7-8

Product = ['Pencil', 'Pen', 'Eraser', 'Pencil Box', 'Scale']

Price= [5, 10, 2, 20, 12]

Brand = ['Camlin', 'Rotomac', 'Nataraj', 'Camel', 'Apsara']

Stationery = [Product, Price, Brand]

7) The command to add "**Notebook**" as the first element inside the first level of the list "**Stationery**" is:-

**1 point**

- ☐ Stationery[0].append('Notebook')  
☒ Stationery[0].insert(0,'Notebook')  
☐ Stationery[0][1] = "Notebook"  
☐ Stationery[0].extend('Notebook')

Yes, the answer is correct.

Score: 1

Accepted Answers:

`Stationery[0].insert(0,'Notebook')`

8) Command to replace the element of *Brand*, “**Camel**” with “**Camlin**” inside the list is:-

1 point

- ☐ `Stationery[2][3].append('Camlin')`
- ☐ `Stationery[2].insert(3,'Camlin')`
- ☒ `Stationery[2][3] = "Camlin"`
- ☐ none of the above

Yes, the answer is correct.

Score: 1

Accepted Answers:

`Stationery[2][3] = "Camlin"`

9) The list “*Months*” is defined as:-

1 point

**Months = ['Jan', 'Mar', 'June', 'Aug', 'June', 'Feb', 'Nov', 'Dec', 'June', 'Apr', 'May', 'June']**

Which of the following commands returns the number of occurrences of ‘**June**’?

- ☒ `Months.count('June')`
- ☐ `Months.len('June')`
- ☐ `Months['June'].count()`
- ☐ `Months['June'].len()`

Yes, the answer is correct.

Score: 1

Accepted Answers:

`Months.count('June')`

10) Choose the correct command to sort ‘**Ages**’ in ascending order

1 point

**Ages = [ '20', '26', '56', '54', '32', '28', '23', '99', '87', '10', '65', '88', '66',  
'48', '42', '27', '33', '38', '83', '94', '66', '44']**

- ☐ `sorted(Ages, reverse=False)`
- ☐ `Ages.sort()`
- ☐ `sorted(Ages, reverse=True)`
- ☒ both A and B

Yes, the answer is correct.

Score: 1

Accepted Answers:

*both A and B*

Answer questions 11 and 12 using the information given below:

**D = ['MONDAY', 'TUESDAY', 'WEDNESDAY', 'THURSDAY', 'FRIDAY', 'SATURDAY', 'SUNDAY']**

11) The command to print **WEDNESDAY, THURSDAY** from the list “*D*” is

1 point

- ☒ `print(D[-5], D[-4])`
- ☐ `print(D[3], D[4])`
- ☐ `print(D[2:5])`
- ☐ all of the above

Yes, the answer is correct.

Score: 1

Accepted Answers:

`print(D[-5], D[-4])`

12)The command used to reverse the above list “**D**” is:-

1 point

- ☐ reverse(D)
- ☐ D.reverse()
- ☐ list(reversed(D))
- ☒ both B and C

Yes, the answer is correct.

Score: 1

Accepted Answers:

*both B and C*

13)The command to clear all the elements from a **Set** is:-

1 point

- ☐ remove( )
- ☐ discard( )
- ☒ clear( )
- ☐ all of the above( )

Yes, the answer is correct.

Score: 1

Accepted Answers:

`clear( )`

Answer questions 14 and 15 using the information given below:

`Mylist=['a', 'a', 'b', 'b', 'b', 'c', 'c', 'd', 'e']`

14)The output of the code: **Mylist.index('d')** is

1 point

- ☒ 7
- ☐ 8
- ☐ 4
- ☐ 6

Yes, the answer is correct.

Score: 1

Accepted Answers:

7

15)The output after you run the command:

1 point

**Mylist.pop(0)**

**print(Mylist)**

- ☐ ['a', 'a', 'b', 'b', 'b', 'c', 'c', 'd', 'e']
- ☒ ['a', 'b', 'b', 'b', 'c', 'c', 'd', 'e']
- ☐ ['a', 'a', 'b', 'b', 'b', 'c', 'c', 'd']
- ☐ ['b', 'b', 'b', 'c', 'c', 'd', 'e']

Yes, the answer is correct.

Score: 1

Accepted Answers:

`['a', 'b', 'b', 'b', 'c', 'c', 'd', 'e']`

16) The command to find the number of elements in the following list "N"

1 point

**N = [24, 27, 29, 26, 25, 23, 20]**

- ☒ len(N)
- ☐ N.count()
- ☐ N.len()
- ☐ count(N)

Yes, the answer is correct.

Score: 1

Accepted Answers:

*len(N)*

Create a dictionary 'Country' that maps the following countries to their capitals respectively.

Country	India	China	Japan	Qatar	Australia
Capital	Delhi	Beijing	Tokyo	Doha	Sydney

17) The command to replace "Sydney" with "Canberra" is:-

1 point

- ☐ Country['Australia']="Canberra"
- ☐ Country.update({"Australia": "Canberra"})
- ☒ Both A and B
- ☐ None of the above

Yes, the answer is correct.

Score: 1

Accepted Answers:

*Both A and B*

Create the following sets X1 and X2 using the data provided below and answer the questions 18 and 19

X1	9	5	6	3	7	8	1
X2	7	1	3	2	0	4	8

18) The output of **X1.intersection(X2)** will be

1 point

- ☐ {0,1,7,8}
- ☒ {1,3,7,8}
- ☐ {1,2,7,8}
- ☐ {1,4,7,8}

Yes, the answer is correct.

Score: 1

Accepted Answers:

*{1,3,7,8}*

19) The command **X1.symmetric\_difference(X2)**

1 point

- ☐ returns all elements belonging to both set X1 and X2
- ☐ returns elements belonging to X1 but not X2
- ☒ returns elements not common to both sets X1 and X2
- ☐ returns elements common to X1 and X2

Yes, the answer is correct.

Score: 1

Accepted Answers:

*returns elements not common to both sets X1 and X2*

20) Which of the following is a code template for creating objects in Python?

1 point

- ☐ list
- ☐ set
- ☐ dictionary
- ☒ class

Yes, the answer is correct.

Score: 1

Accepted Answers:

*class*

Create the following **Matrix “Y”** in Python and answer questions 21 to 23 :

4	9	6
2	8	4
5	10	15

21) The determinant of the matrix “Y” rounded off to the zeroth decimal place is

1 point

- ☒ 110
- ☐ 120
- ☐ 0
- ☐ 1

Yes, the answer is correct.

Score: 1

Accepted Answers:

*110*

22) Inverse of matrix “Y” rounded off to second decimal place is

1 point

- ☐  $\begin{bmatrix} -0.73 & 0.68 & 0.11 \\ 0.09 & -0.27 & 0.04 \\ 0.18 & 0.05 & -0.13 \end{bmatrix}$
- ☒  $\begin{bmatrix} 0.73 & -0.68 & -0.11 \\ -0.09 & 0.27 & -0.04 \\ -0.18 & 0.05 & 0.13 \end{bmatrix}$
- ☐  $\begin{bmatrix} 0.73 & 0.68 & 0.11 \\ 0.09 & 0.27 & 0.04 \\ 0.18 & 0.05 & 0.13 \end{bmatrix}$
- ☐  $\begin{bmatrix} -0.73 & -0.68 & -0.11 \\ -0.09 & -0.27 & -0.04 \\ -0.18 & -0.05 & -0.13 \end{bmatrix}$

Yes, the answer is correct.

Score: 1

Accepted Answers:

```
(([ 0.73, -0.68, -0.11],  
[-0.09,  0.27, -0.04],  
[-0.18,  0.05,  0.13]))
```

23) The column sum of  $Y^T$  is

**1 point**

- ☐ `matrix([[11, 27, 25]])`
- ☐ `matrix([[19, 14, 25]])`
- ☒ `matrix([[19, 14, 30]])`
- ☐ `matrix([[11, 27, 30]])`

Yes, the answer is correct.

Score: 1

Accepted Answers:

`matrix([[19, 14, 30]])`