

**Assignment -1**  
Python Programming

Assignment Date	09 November 2022
Student Name	Mr.C.Senthil Murugan
Student Roll Number	E1194033
Maximum Marks	2 Marks

**Question-1:**

Split this string

```
s = "Hi there Sam!"
```

**Solution:**

```
print(s.split())
```

```
['Hi', 'there', 'Sam!']
```

▼ 1. Split this string

```
[ ] s = "Hi there Sam!"
```

```
[ ] print(s.split())
```

```
['Hi', 'there', 'Sam!']
```

**Question-2:**

Use .format() to print the following string.

Output should be: The diameter of Earth is 12742 kilometers.

```
planet = "Earth" diameter = 12742
```

**Solution:**

```
print('The diameter of {} is {} kilometers.'.format(planet,diameter))
```

```
The diameter of Earth is 12742 kilometers.
```

▼ 2. Use .format() to print the following string.

Output should be: The diameter of Earth is 12742 kilometers.

```
[ ] planet = "Earth"
   diameter = 12742
```

```
[ ] print('The diameter of {} is {} kilometers.'.format(planet,diameter))
```

```
The diameter of Earth is 12742 kilometers.
```

### Question-3:

In this nest dictionary grab the word "hello"

```
d = {'k1':[1,2,3,{'tricky':['oh','man','inception',{'target':[1,2,3,'hello']}]}]}
```

### Solution:

```
print(d['k1'][3]['tricky'][3]['target'][3])  
  
hello
```

```
3. In this nest dictionary grab the word "hello"  
  
[ ] d = {'k1':[1,2,3,{'tricky':['oh','man','inception',{'target':[1,2,3,'hello']}]}]}  
  
[ ] print(d['k1'][3]['tricky'][3]['target'][3])  
  
hello
```

### Question-4.1:

import numpy as np

Create an array of 10 zeros?

### Solution:

```
array=np.zeros(10)  
print("An array of 10 zeros:")  
print(array)  
  
An array of 10 zeros: [0. 0. 0. 0. 0. 0. 0. 0. 0. 0.]
```

```
[ ] array=np.zeros(10)  
print("An array of 10 zeros:")  
print(array)  
  
An array of 10 zeros:  
[0. 0. 0. 0. 0. 0. 0. 0. 0. 0.]
```

### Question-4.2:

import numpy as np

Create an array of 10 fives?

### Solution:

```
array=np.ones(10)*5  
print("An array of 10 fives:")  
print(array)  
  
An array of 10 fives: [5. 5. 5. 5. 5. 5. 5. 5. 5. 5.]
```

```
[ ] array=np.ones(10)*5
print("An array of 10 fives:")
print(array)
```

```
An array of 10 fives:
[5. 5. 5. 5. 5. 5. 5. 5. 5. 5.]
```

#### Question-5:

Create an array of all the even integers from 20 to 35

#### Solution:

```
array=np.arange(20,35,2)
print("Array of all the even integers from 20 to 35")
print(array)
```

Array of all the even integers from 20 to 35

```
[20 22 24 26 28 30 32 34]
```

```
[ ] array=np.arange(20,35,2)
print("Array of all the even integers from 20 to 35")
print(array)
```

```
Array of all the even integers from 20 to 35
[20 22 24 26 28 30 32 34]
```

#### Question-6:

Create a 3x3 matrix with values ranging from 0 to 8

#### Solution:

```
x=np.arange(0,9).reshape((3,3))
print(x)
```

```
[[0 1 2] [3 4 5] [6 7 8]]
```

```
[ ] x=np.arange(0,9).reshape((3,3))
print(x)
```

```
[[0 1 2]
 [3 4 5]
 [6 7 8]]
```

#### Question-7:

Concatenate a and b

```
a = np.array([1, 2, 3]), b = np.array([4, 5, 6])
```

**Solution:**

```
a = np.array([1,2,3]) b = np.array([4,5,6])
```

```
print(np.concatenate((a, b), axis=0))
```

```
[1 2 3 4 5 6]
```

```
a = np.array([1, 2, 3]), b = np.array([4, 5, 6])
```

```
[ ] a = np.array([1,2,3])  
    b = np.array([4,5,6])  
    print(np.concatenate((a, b), axis=0))
```

```
[1 2 3 4 5 6]
```

**Question-8:**

Create a dataframe with 3 rows and 2 columns

**Solution:**

```
import pandas as pd
```

```
import matplotlib.pyplot as plt
```

```
import numpy as np
```

```
data=[["Joshua","Leader"],["Senthil","Member"],["Kirthika","Mentor"]]
```

```
print(pd.DataFrame(data,columns=["Name","Role"]))
```

```
   Name  Role
```

```
0 Joshua  Leader
```

```
1 Senthil  Member
```

```
2 Kirthika  Mentor
```

```
[ ] import pandas as pd  
    import matplotlib.pyplot as plt  
    import numpy as np
```

```
[ ] data=[["Joshua","Leader"],["Senthil","Member"],["Kirthika","Mentor"]]  
    print(pd.DataFrame(data,columns=["Name","Role"]))
```

```
      Name  Role  
0   Joshua  Leader  
1   Senthil  Member  
2  Kirthika  Mentor
```

**Question-9:**

Generate the series of dates from 1st Jan, 2023 to 10th Feb, 2023

**Solution:**

```
from datetime import datetime

date=pd.date_range(start="2023-01-01",end="2023-02-10")

print(pd.Series(date))
```

0	2023-01-01
1	2023-01-02
2	2023-01-03
3	2023-01-04
4	2023-01-05
5	2023-01-06
6	2023-01-07
7	2023-01-08
8	2023-01-09
9	2023-01-10
10	2023-01-11
11	2023-01-12
12	2023-01-13
13	2023-01-14
14	2023-01-15
15	2023-01-16
16	2023-01-17
17	2023-01-18
18	2023-01-19
19	2023-01-20
20	2023-01-21
21	2023-01-22
22	2023-01-23
23	2023-01-24
24	2023-01-25
25	2023-01-26
26	2023-01-27

27 2023-01-28

28 2023-01-29

29 2023-01-30

30 2023-01-31

31 2023-02-01

32 2023-02-02

33 2023-02-03

34 2023-02-04

35 2023-02-05

36 2023-02-06

37 2023-02-07

38 2023-02-08

39 2023-02-09

40 2023-02-10

dtype: datetime64[ns]

▼ 9. Generate the series of dates from 1st Jan, 2023 to 10th Feb, 2023

```
[ ] from datetime import datetime  
  
date=pd.date_range(start="2023-01-01",end="2023-02-10")  
print(pd.Series(date))
```

```
0    2023-01-01  
1    2023-01-02  
2    2023-01-03  
3    2023-01-04  
4    2023-01-05  
5    2023-01-06  
6    2023-01-07  
7    2023-01-08  
8    2023-01-09  
9    2023-01-10  
10   2023-01-11  
11   2023-01-12  
12   2023-01-13  
13   2023-01-14  
14   2023-01-15  
15   2023-01-16  
16   2023-01-17  
17   2023-01-18  
18   2023-01-19  
19   2023-01-20  
20   2023-01-21  
21   2023-01-22  
22   2023-01-23  
23   2023-01-24  
24   2023-01-25  
25   2023-01-26  
26   2023-01-27  
27   2023-01-28  
28   2023-01-29  
29   2023-01-30  
30   2023-01-31  
31   2023-02-01  
32   2023-02-02  
33   2023-02-03  
34   2023-02-04  
35   2023-02-05  
36   2023-02-06  
37   2023-02-07  
38   2023-02-08  
39   2023-02-09  
40   2023-02-10  
dtype: datetime64[ns]
```

### Question-10:

Create 2D list to DataFrame

```
lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]
```

### Solution:

10. Create 2D list to DataFrame

```
lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]
```

```
[ ] lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]
pd.DataFrame(lists, columns=["S.No", "Name", "Quantity"])
```

	S.No	Name	Quantity
0	1	aaa	22
1	2	bbb	25
2	3	ccc	24