

**Assignment -1**  
Python Programming

Assignment Date	19 September 2022
Student Name	G.Muthu Pandiyan
Student Roll Number	953719104035
Maximum Marks	2 Marks

**QUESTION 1:**

Split the string

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

**SOLUTION:**

```
s = "Hi there Sam!"  
  
x = s.split()  
  
print(x)
```

**RESULTS:**

```
s = "Hi there Sam!"  
  
s = "Hi there Sam!"  
  
x = s.split()  
  
print(x)  
  
['Hi', 'there', 'Sam!']
```

**QUESTION 2 :**

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

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

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

**SOLUTION:**

```
planet = "Earth"  
diameter = 12742  
print("The diameter of {} is {} kilometers.".format(planet,diameter))
```

## RESULTS:

```
planet = "Earth"
diameter = 12742

planet = "Earth"
diameter = 12742
print("The diameter of {} is {} kilometers.".format(planet,diameter))

The diameter of Earth is 12742 kilometers.
```

## QUESTION 3:

3. In this nest dictionary grab the word “hello”

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

## SOLUTION:

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

d['k1'][3]['tricky'][3]['target'][3]
```

## RESULTS:

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

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

d['k1'][3]['tricky'][3]['target'][3]

'hello'
```

## QUESTION 4:

4.1 Create an array of 10 zeros?

4.2 Create an array of 10 fives?

### SOLUTION:

```
import numpy as np
np.zeros(10)
import numpy as np
np.ones(10) * 5
```

### RESULTS:

```
import numpy as np
np.zeros(10)

array([0., 0., 0., 0., 0., 0., 0., 0., 0., 0.])

import numpy as np
np.ones(10) * 5

array([5., 5., 5., 5., 5., 5., 5., 5., 5., 5.])
```

### QUESTION 5:

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

### SOLUTION:

```
import numpy as np
np.arange(20,36,2)
```

### RESULTS:

```
import numpy as np
np.arange(20,36,2)

array([20, 22, 24, 26, 28, 30, 32, 34])
```

### QUESTION 6:

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

### SOLUTION:

```
import numpy as np
np.arange(0,9).reshape(3,3)
```

## RESULTS:

```
import numpy as np
np.arange(0,9).reshape(3,3)

array([[0, 1, 2],
       [3, 4, 5],
       [6, 7, 8]])
```

## QUESTION 7:

7. Concatenate a and b

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

## SOLUTION:

```
import numpy as np

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

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

## RESULTS:

```
import numpy as np

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

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

array([1, 2, 3, 4, 5, 6])
```

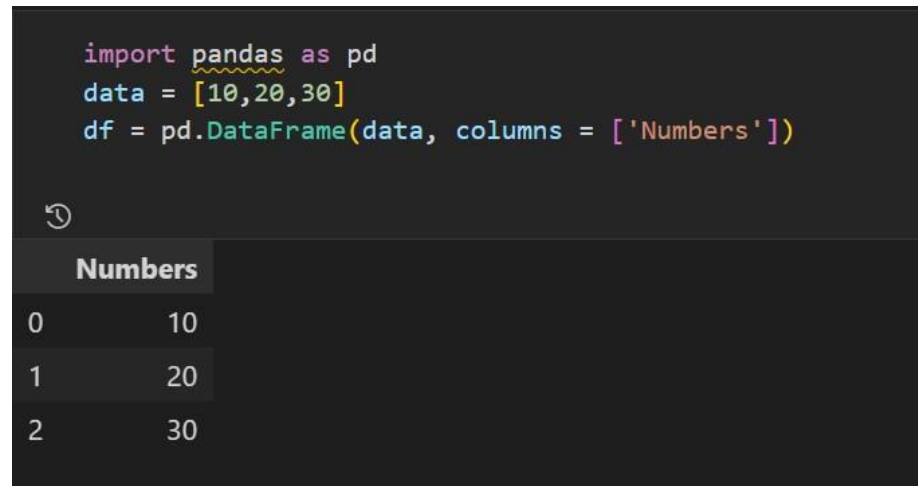
## QUESTION 8:

8. Create a dataframe with 3 rows and 2 columns

```
import pandas as pd
data = [10,20,30]
df = pd.DataFrame(data, columns = ['Numbers'])
```

## RESULTS:

```
import pandas as pd
data = [10,20,30]
df = pd.DataFrame(data, columns = ['Numbers'])
```



	Numbers
0	10
1	20
2	30

## QUESTION 9:

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

## SOLUTION:

```
import pandas as pd
dates = pd.date_range('1st Jan,2023', periods = 41)
s = pd.Series(dates)
print(s)
```

## RESULT:

```
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
...
38   2023-02-08
39   2023-02-09
40   2023-02-10
dtype: datetime64[ns]
```

### QUESTION 10:

10. Create 2D list to DataFrame

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

### SOLUTION:

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

```
df = pd.DataFrame(lists)
print(df)
```

## RESULT:

```
import pandas as pd
lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]
df = pd.DataFrame(lists)
print(df)
```

	0	1	2
0	1	aaa	22
1	2	bbb	25
2	3	ccc	24