

**Assignment - 1**  
**BASIC PYTHON**

Assignment Date	12.09.2022
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Maximum Marks	2 Marks

**Question-1**

Split this string

s = "Hi there Sam!"

**Solution:**

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

**Screenshot:**

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.

**Solution:**

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

**Screenshot:**

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

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

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

**Question-3**

In this nest dictionary grab the word "hello"

**Solution:**

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

**Screenshot:**

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
```

## Numpy

**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,dtype=int)
np.ones(10,dtype=int)*5
```

**Screenshot:**

4.1 Create an array of 10 zeros?

4.2 Create an array of 10 fives?

```
np.zeros(10,dtype=int)

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

np.ones(10,dtype=int)*5

array([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:**

```
np.arange(20,36,2)
```

**Screenshot:**

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

```
np.arange(20,36,2)
```

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

+ Code + Markdown

#### Question-6

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

#### Solution:

```
np.arange(0, 9).reshape(3,3)
```

#### Screenshot:

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

```
np.arange(0, 9).reshape(3,3)
```

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

+ Code + Markdown

#### 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])
new_array=np.concatenate((a, b))
print(new_array)
```

#### Screenshot:

7. Concatenate a and b

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

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

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

## Pandas

#### Question-8

Create a dataframe with 3 rows and 2 columns

#### Solution:

```
import pandas as pd
```

```
data = [['Riya',106], ['Arjun', 116],['Ramu',119]]
df=pd.DataFrame(data)
print(df)
```

**Screenshot:**

8. Create a dataframe with 3 rows and 2 columns

```
import pandas as pd

data = [['Riya',106], ['Arjun', 116],['Ramu',119]]
df=pd.DataFrame(data)
print(df)
```

```

..      0      1
0  Riya  106
1  Arjun  116
2  Ramu   119
```

### Question-9

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

**Solution:**

```
mydates = pd.date_range('2023-01-01', '2023-02-10')
print(mydates)
```

**Screenshot:**

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

```
mydates = pd.date_range('2023-01-01', '2023-02-10')
print(mydates)
```

```

DatetimeIndex(['2023-01-01', '2023-01-02', '2023-01-03', '2023-01-04',
               '2023-01-05', '2023-01-06', '2023-01-07', '2023-01-08',
               '2023-01-09', '2023-01-10', '2023-01-11', '2023-01-12',
               '2023-01-13', '2023-01-14', '2023-01-15', '2023-01-16',
               '2023-01-17', '2023-01-18', '2023-01-19', '2023-01-20',
               '2023-01-21', '2023-01-22', '2023-01-23', '2023-01-24',
               '2023-01-25', '2023-01-26', '2023-01-27', '2023-01-28',
               '2023-01-29', '2023-01-30', '2023-01-31', '2023-02-01',
               '2023-02-02', '2023-02-03', '2023-02-04', '2023-02-05',
               '2023-02-06', '2023-02-07', '2023-02-08', '2023-02-09',
               '2023-02-10'],
              dtype='datetime64[ns]', freq='D')
```

### Question-10

10. Create 2D list to DataFrame

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

**Solution:**

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

## Screenshot:

### 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]]
```

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

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