

**Assignment -1**  
Python Programming

Assignment Date	9 September 2022
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Maximum Marks	2 Marks

## Basic Python

### Question-1:

**Split this string:**

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

**Solution:**

**print(s.split())**

#### ▼ 1. Split this string

```
[2] s = "Hi there Sam!"  
  
[2] 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 print ("the diameter of {} is {}  
kilometers.".format(planet,diameter))
```

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

```
[4] 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"

**Solution:**

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

3. In this nest dictionary grab the word "hello"

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

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

'hello'
```

## Numpy

```
import numpy as np
```

### Question-4:

4.1 Create an array of 10 zeros?

**Solution:**

```
array1=np.zeros(10) print(array1)
```

```
array1=np.zeros(10)
print(array1)

[0. 0. 0. 0. 0. 0. 0. 0. 0. 0.]
```

4.2 Create an array of 10 fives?

**Solution:**

```
array2=np.ones(10)*5 print(array2)
```

```

array2=np.ones(10)*5
print(array2)

[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:**

```
array3=np.arange(20,35,2) print(array3)
```

```

array3=np.arange(20,35,2)
print(array3)

[20 22 24 26 28 30 32 34]

```

**Question-6:**

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

**Solution:**

```

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

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

[[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])
c=np.concatenate((a,b)) c
d=np.concatenate((a,b),axis=0,out=None) print
(d)

```

```

a=np.array([1,2,3])
b=np.array([4,5,6])
c=np.concatenate((a,b))
c
d=np.concatenate((a,b),axis=0,out=None)
print (d)

[1 2 3 4 5 6]

```

## Pandas

```
import pandas as pd
```

### Question-8:

**Create a dataframe with 3 rows and 2 columns** [Solution:](#)

```
data=[['xxx',1],['yyy',2],['zzz',3]] df=  
pd.DataFrame(data,columns=['name','number']) df
```

```
data=[['xxx',1],['yyy',2],['zzz',3]]  
df= pd.DataFrame(data,columns=['name','number'])  
df
```

	name	number
0	xxx	1
1	yyy	2
2	zzz	3

### Question-9:

**Generate the series of dates from 1st Jan, 2023 to 10th Feb, 2023** [Solution:](#)

```
sd=pd.date_range(start='1-1-2023',end='10-02-2023') print (s
```

```
sd=pd.date_range(start='1-1-2023',end='10-02-2023')  
print (sd)
```

```
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',  
              ...  
              '2023-09-23', '2023-09-24', '2023-09-25', '2023-09-26',  
              '2023-09-27', '2023-09-28', '2023-09-29', '2023-09-30',  
              '2023-10-01', '2023-10-02'],  
              dtype='datetime64[ns]', length=275, freq='D')
```

### Question-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,columns=['sno','name','age']) print  
(df)
```

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

```
df=pd.DataFrame(lists,columns=['sno','name','age'])  
print(df)
```

	sno	name	age
0	1	aaa	22
1	2	bbb	25
2	3	ccc	24