

Assignment -1
Python Programming

Assignment Date	20 September 2022
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Student Roll Number	820319106010
Maximum Marks	2 Marks

Basic Python

1. Split this string

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

Output:

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

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));
```

Output:

The diameter of Earth is 12742 kilometers.

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

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

Output:

```
'hello'
```

Numpy

4.1 Create an array of 10 zeros?

```
import numpy as np
```

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

Output:

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

4.2 Create an array of 10 fives?

```
import numpy as np
```

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

Output:

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

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

```
import numpy as np
```

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

Output:

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

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

```
import numpy as np
```

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

Output:

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

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

Output:

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

Pandas

8. Create a data frame with 3 rows and 2 columns

```
import pandas as pd
```

```
d = {"fruits":["mango","orange","apple"],"color":["yellow","orange","red"]}
```

```
df = pd.DataFrame(d)
```

```
print(df)
```

Output:

	fruits	color
0	mango	yellow
1	orange	orange
2	apple	red

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

```
P = pd.date_range(start='1-1-2023',end='10-2-2023')
```

```
for val in P:
```

```
    print(val);
```

Output:

```
2023-01-01 00:00:00
2023-01-02 00:00:00
2023-01-03 00:00:00
2023-01-04 00:00:00
2023-01-05 00:00:00
2023-01-06 00:00:00
2023-01-07 00:00:00
2023-01-08 00:00:00
2023-01-09 00:00:00
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```

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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)
```

Output:

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