

Assignment -1

Assignment Date	24 September 2022
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Maximum Marks	2 Marks

Question-1:

Split the String

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

Solution:

```
s.split()
```

Basic Python

1. Split this string

```
In [ ]: s = "Hi there Sam!"  
  
In [ ]: s.split()  
  
Out[4]: ['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));
```

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

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

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

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

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

```
Out[8]: 'hello'
```

Question-4:

4.1 Create an array of 10 zeros?

4.2 Create an array of 10 Fives?

Solution :

```
import numpy as np
```

4.1 a = np.zeros(10)

```
a
```

4.2 tmp=np.ones(10)*5

```
print(tmp)
```

Numpy

```
In [4]: import numpy as np
```

4.1 Create an array of 10 zeros?

4.2 Create an array of 10 fives?

```
In [5]: a = np.zeros(10)
a
```

```
Out[5]: array([0., 0., 0., 0., 0., 0., 0., 0., 0., 0.])
```

```
In [7]: tmp=np.ones(10)*5
print(tmp)
```

```
[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 :

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

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

```
In [6]: print(np.arange(20,35,2))  
[20 22 24 26 28 30 32 34]
```

Question-6:

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

Solution:

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

c

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

```
In [ ]: c = np.arange(0,9).reshape(3,3)  
c  
Out[13]: array([[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])
```

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

7. Concatenate a and b

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

```
In [ ]: a = np.array([1,2,3])  
b = np.array([4,5,6])  
np.concatenate((a,b),axis=0)  
Out[14]: array([1, 2, 3, 4, 5, 6])
```

Pandas

Question-8:

Create a DataFrame with 3 rows and 2 columns

Solution:

import pandas as pd

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

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

```
df
```

8. Create a dataframe with 3 rows and 2 columns

```
In [2]: import pandas as pd

In [ ]: d = {"fruits":["mango","orange","apple"],"color":["yellow","orange","red"]}
df = pd.DataFrame(d)
df

Out[16]:
```

	fruits	color
0	mango	yellow
1	orange	orange
2	apple	red

Question-9:

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

Solution:

```
dates = pd.date_range(start='1/1/2023',end='2/10/2023')
```

```
lists = []
```

```
for i in dates:
```

```
    lists.append(i.strftime('%d-%m-%y'))
```

```
print(lists)
```

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

```
In [3]: dates = pd.date_range(start='1/1/2023',end='2/10/2023')
lists = []
for i in dates:
    lists.append(i.strftime('%d-%m-%y'))
print(lists)

['01-01-23', '02-01-23', '03-01-23', '04-01-23', '05-01-23', '06-01-23', '07-01-23', '08-01-23', '09-01-23', '10-01-23', '11-01-23', '12-01-23', '13-01-23', '14-01-23', '15-01-23', '16-01-23', '17-01-23', '18-01-23', '19-01-23', '20-01-23', '21-01-23', '22-01-23', '23-01-23', '24-01-23', '25-01-23', '26-01-23', '27-01-23', '28-01-23', '29-01-23', '30-01-23', '31-01-23', '01-02-23', '02-02-23', '03-02-23', '04-02-23', '05-02-23', '06-02-23', '07-02-23', '08-02-23', '09-02-23', '10-02-23']
```

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]]
```

10. Create 2D list to DataFrame ¶

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

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

```
In [ ]: df = pd.DataFrame(lists)
df
```

```
Out[20]:
```

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