

Assignment -1
Basic Python

Assignment Date	26 October 2022
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Maximum Marks	2 Marks

Question-1:

Split this string:

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

Solution:

```
x=s.split()
print(x)
```

1. Split this string

```
In [4]: s = "Hi there Sam!"
```

```
In [5]: x = s.split()
print(x)

['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
```

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

italicized text ## 2. Use .format() to print the following string.

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

```
In [21]: planet = "Earth"
diameter = 12742
```

```
In [23]: txt="The diameter of {} is {} kilometers"
print(txt.format(planet,diameter))
```

The diameter of Earth is 12742 kilometers

Question 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'][3]['tricky'][3]['target'][3]
```

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

```
In [24]: d = {'k1':[1,2,3,{'tricky':['oh','man','inception',{'target':[1,2,3,'hello']}]}]}
```

```
In [61]: d['k1'][3]['tricky'][3]['target'][3]
```

```
Out[61]: 'hello'
```

Question 4:

Create an array of 10 zeros?

Create an array of 10 fives?

Solution:

```
array=np.zeros(10)
```

```
print(array)
```

```
array=np.ones(10)*5
```

```
print(array)
```

4.1 Create an array of 10 zeros?

4.2 Create an array of 10 fives?

```
In [7]: array=np.zeros(10)  
print(array)
```

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

```
In [8]: array=np.ones(10)*5  
print(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:

```
array=np.arange(20,36,2)
print(array)
```

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

```
In [9]: array=np.arange(20,36,2)
        print(array)

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

Question 6:

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

Solution:

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

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

```
In [10]: x = np.arange(0,9).reshape(3,3)
        print(x)

[[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))
print(c)
```

7. Concatenate a and b

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

```
In [11]: a = np.array([1, 2, 3])
b = np.array([4, 5, 6])
c = np.concatenate((a, b))
print(c)
```

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

Question 8:

Create a dataframe with 3 rows and 2 columns

Solution:

import pandas as pd

data = [['harry', 20], ['thanos', 45], ['emma', 19]]

df = pd.DataFrame(data, columns=['Name', 'Age'])

df

8. Create a dataframe with 3 rows and 2 columns

```
In [12]: import pandas as pd
```

```
In [15]: data = [['harry', 20], ['thanos', 45], ['emma', 19]]
df = pd.DataFrame(data, columns=['Name', 'Age'])
df
```

Out[15]:

	Name	Age
0	harry	20
1	thanos	45
2	emma	19

Question 9:

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

Solution:

import pandas as pd

from datetime import datetime

pd.date_range(start="2023-01-01",end="2023-02-10")

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

```
In [16]: import pandas as pd
from datetime import datetime
pd.date_range(start="2023-01-01",end="2023-02-10")

Out[16]: 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:

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, columns=['S.NO','Name', 'number'])
```

```
print(df)
```

10. Create 2D list to DataFrame

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

```
In [20]: import pandas as pd
lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]
df = pd.DataFrame(lists, columns=['S.NO','Name', 'number'])
print(df)
```

	S.NO	Name	number
0	1	aaa	22
1	2	bbb	25
2	3	ccc	24