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:

4.1 Create an array of 10 zeros?

4.2 Create an array of 10 fives?

Solution:

4.1) array=np.zeros(10)

print(array)

4.2) 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:

Concatinate 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. Concatinate 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
```