Assignment -1

Basic Python

Assignment Date	10th Septempter 2022
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Maximum Marks	2 Marks

Question-1:

1. Split this string:

s = "Hi there Sam!"

Solution:

```
s.split(" ")
```

1. Split this string

```
In [1]: s = "Hi there Sam!"

In [2]: s.split(" ")
Out[2]: ['Hi', 'there', 'Sam!']
```

Question-2:

2.Use .format() to print the following stringto print the following string
Output should be: The diameter of Earth is 12742 kilometers.

```
planet = "Earth"
diameter = 12742
```

Solution

```
print("The diameter of {planet} is {diameter} kilometers".format(planet ="Earth",diameter=12742))
```

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

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

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

[4]: print("The diameter of {planet} is {diameter} kilometers".format(planet ="Earth",diameter=12742))
     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']}]}]}

Soultion

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

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

```
In [5]: d = {'k1':[1,2,3,{'tricky':['oh','man','inception',{'target':[1,2,3,'hello']}]}]}

In [6]: d['k1'][3]['tricky'][3]['target'][3]
Out[6]: 'hello'
```

Question-4:

Numpy

4.1 Create an array of 10 zeros?

4.2 Create an array of 10 fives?

Solution:

np.zeros(10)

5*np.ones(10)

Numpy

```
In [7]: import numpy as np
```

4.1 Create an array of 10 zeros?

4.2 Create an array of 10 fives?

```
In [8]: np.zeros(10)
Out[8]: array([0., 0., 0., 0., 0., 0., 0., 0., 0., 0.])

In [9]: 5*np.ones(10)
Out[9]: 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:

x=np.arange(20,36,2)

x

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

```
In [10]: x=np.arange(20,36,2)
         # print(np.where(x%2==0))
         x

Out[10]: array([20, 22, 24, 26, 28, 30, 32, 34])
```

Question-6:

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

Solution

np.arange(0,9).reshape((3,3))

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

```
In [11]: np.arange(0,9).reshape((3,3))

Out[11]: 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 [12]: a = np.array([1, 2, 3])
         b = np.array([4, 5, 6])
         np.concatenate((a,b),axis=0)

Out[12]: array([1, 2, 3, 4, 5, 6])
```

Pandas

Question-8:

Pandas

8. Create a dataframe with 3 rows and 2 columns

Solution:

```
import pandas as pd

df=pd.DataFrame([[1, 2],[3,4],[5, 6]],columns=['r0','r1'])

df
```

Pandas

8. Create a dataframe with 3 rows and 2 columns

```
In [13]: import pandas as pd

In [14]: df=pd.DataFrame([[1, 2],[3,4],[5, 6]],columns=['r0','r1'])
         df

Out[14]:
```

	r0	r1
0	1	2
1	3	4
2	5	6

Question-9:

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

Solution

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

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

```
In [15]: pd.date_range(start ='1-1-2023', end ='10-02-2023')

Out[15]: 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:

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]]
pd.DataFrame(lists)
```

10. Create 2D list to DataFrame

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

In [16]:
```
lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]
```

In [17]:
```
pd.DataFrame(lists)
```

Out[17]:

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