Assignment -1

Python Programming

Assignment Date	28 september 2022
Student Name	RAVILLA RAMA RAO
Student Roll Number	111519105113
Maximum Marks	2 Marks

Question-1:

Split this string

Solution:

```
s = "Hi there Sam!"

print(s.split())

#--------------------------------------
#
#--------------------------------------
#
```

```
In [1]: s = "Hi there Sam!"
        print(s.split())

        ['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 {plt} is {dr}
kilometres.".format(plt=planet,dr=diameter)

print(txt)
```

	#----------# #----------#

```
In [8]: planet = "Earth"
        diameter = 12742

In [9]: txt="The diameter of {plt} is {dr} kilometres.".format(plt=planet,dr=diameter)
        print(txt)

        The diameter of Earth is 12742 kilometres.
```

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']}]}]}

Question 4.1:

Create an array of 10 zeros?

Solution:

	import numpy as np
	array=np.zeros(10)
	print(array)

Question4.2:

Create an array of 10 fives?

Solution:

```
import numpy as np
array=np.ones(10)*5print(array)
```

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

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

```
In [6]: 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, 35, 2)
print(array)
```

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

```
In [7]: array=np.arange(20,35,2)
        print(array)
```

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

Question 6:
Create a 3x3 matrix with values ranging from 0 to 8
Solution:

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

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

```
In [20]: arr=np.arange(0,9).reshape(3,3)
         print(arr)
```

```
[[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])
np.concatenate([a, b])
```

7. Concatinate a and b

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

```
In [22]: a=np.array([1,2,3])
         b=np.array([4,5,6])
         np.concatenate([a,b])

Out[22]: array([1, 2, 3, 4, 5, 6])
```

Question 8:

Create a dataframe with 3 rows and 2 columns
Solution:

```
import pandas as pd
data=pd.DataFrame(index=np.arange(3), columns=np.arange(2))
print(data)
```

8. Create a dataframe with 3 rows and 2 columns

```
In [9]: import pandas as pd

In [10]: data=pd.DataFrame(index=np.arange(3), columns=np.arange(2))
         print(data)

              0    1
         0  NaN  NaN
         1  NaN  NaN
         2  NaN  NaN
```

Question 9:

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

```
data=pd.date_range(start="1/1/2023",end="10/2/2023")
print(data)
```

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

```
In [11]: data=pd.date_range(start="1/1/2023",end="10/2/2023")
         print(data)

         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:

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]]
data=pd.DataFrame(lists,columns=["s.no","pattern","number"])print(data)
```

10. Create 2D list to DataFrame

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

In [12]:
```
lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]
```

In [13]:
```
data=pd.DataFrame(lists,columns=["s.no","pattern","number"])
print(data)
```

```
   s.no pattern  number
0     1     aaa      22
1     2     bbb      25
2     3     ccc      24
```