Assignment -1

Python Programming

Assignment Date	12 September 2022
Student Name	S.Karthika
Student Roll Number	912419104014
Maximum Marks	2 Marks

Question-1:

Split this string

s = "Hi there Sam!"

Solution:

```
s = "Hi there Sam!"
split=s.split()
print(split)
```

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.

```
[6]  planet = "Earth"
     diameter = 12742
```

```
[7]  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"

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

Solution:

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

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

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

```
[7]  new_d=d['k1'][3]['tricky'][3]['target'][3]
     print(new_d)

     hello
```

Question-4:

4.1 Create an array of 10 zeros?

4.2 Create an array of 10 fives?

Solution:

```
import numpy as np
np.zeros(10) #create an array of 10 zeros
np.ones(10)*5 #create an array of 10 five
```

Numpy

```
[8] import numpy as np
```

4.1 Create an array of 10 zeros?

4.2 Create an array of 10 fives?

```
[14] np.zeros(10)

     array([0., 0., 0., 0., 0., 0., 0., 0., 0., 0.])
```

```
[15] np.ones(10)*5

     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:

```
Import numpy as np
array=np.arange(20,35,2)
print(array)
```

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

```
import numpy as np
array=np.arange(20,35,2)
print(array)

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

Question-6:

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

Solution:

```
import numpy as np
matrix=np.arange(0,9).reshape(3,3)
print(matrix)
```

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

```
[18] import numpy as np
     matrix=np.arange(0,9).reshape(3,3)
     print(matrix)
```

```
[[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:

```
import numpy as np
a=np.array([1,2,3])
b=np.array([4,5,6])
concat=np.concatenate((a,b))
print(concat)
```

7. Concatenate a and b

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

```
[19] import numpy as np
     a=np.array([1,2,3])
     b=np.array([4,5,6])
     concat=np.concatenate((a,b))
     print(concat)
```

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

Question-8:

Create a dataframe with 3 rows and 2 columns

Solution:

```
import pandas as pd
d={"id":[4001,4002,4003],"name":["valar","ammu","sangeetha"]}
data_frame=pd.DataFrame(d)
print(data_frame)
```

Pandas

8. Create a dataframe with 3 rows and 2 columns

```
[20] import pandas as pd
```

```
[21] d={"id":[4001,4002,4003],"name":["valar","ammu","sangeetha"]}

     data_frame=pd.DataFrame(d)
     print(data_frame)
```

```
     id       name
0  4001      valar
1  4002       ammu
2  4003  sangeetha
```

Question-9:

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

Solution:

```
import pandas as pd
date_series=pd.Series(pd.date_range("2023-01-01","2023-02-10"))
print(date_series)
```

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

```
import pandas as pd
date_series=pd.Series(pd.date_range("2023-01-01","2023-02-10"))
print(date_series)
```

```
0    2023-01-01
1    2023-01-02
2    2023-01-03
3    2023-01-04
4    2023-01-05
5    2023-01-06
6    2023-01-07
7    2023-01-08
8    2023-01-09
9    2023-01-10
10   2023-01-11
11   2023-01-12
12   2023-01-13
13   2023-01-14
14   2023-01-15
15   2023-01-16
16   2023-01-17
17   2023-01-18
18   2023-01-19
19   2023-01-20
20   2023-01-21
21   2023-01-22
22   2023-01-23
23   2023-01-24
24   2023-01-25
25   2023-01-26
26   2023-01-27
27   2023-01-28
28   2023-01-29
29   2023-01-30
30   2023-01-31
31   2023-02-01
32   2023-02-02
33   2023-02-03
34   2023-02-04
35   2023-02-05
36   2023-02-06
37   2023-02-07
38   2023-02-08
39   2023-02-09
40   2023-02-10
dtype: datetime64[ns]
```

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]]
list1=zip(lists)
df=pd.DataFrame(list1)
print(df)
```

10. Create 2D list to DataFrame

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

```
[23] import pandas as pd
     lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]
```

```
list1=zip(lists)
df=pd.DataFrame(list1)
print(df)
```

```
                0
0  [1, aaa, 22]
1  [2, bbb, 25]
2  [3, ccc, 24]
```