Assignment -1

Python Programming

Assignment Date	11 October 2022
Student Name	Aswitha K G
Student Roll Number	111519106007
Maximum Marks	2 Marks

Question-1:

Split this string

s = "Hi there Sam!"

Solution:

s="Hi there Sam!"

s=s.split()

print(s)

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

     ['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

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

lst = [1,2,[3,4],[5,[100,200,['hello']],23,11],1,7]

a=lst[3][1][2];

print(a)

```
[ ]  lst = [1,2,[3,4],[5,[100,200,['hello']],23,11],1,7]
     a=lst[3][1][2];
     print(a)

     ['hello']
```

Question-4.1:

Create an array of 10 zeros?

Solution:

import numpy as np

array=np.zeros(10)

print("An array of 10 zeros:")

print(array)

```
[ ]  import numpy as np
     array=np.zeros(10)
     print("An array of 10 zeros:")
     print(array)

     An array of 10 zeros:
     [0. 0. 0. 0. 0. 0. 0. 0. 0. 0.]
```

Question 4.2:

Create an array of 10 fives?

Solution:

import numpy as np

array=np.ones(10)*5

print("An array of 10 fives:")

print(array)

```
import numpy as np
array=np.ones(10)*5
print("An array of 10 fives:")
print(array)

An array of 10 fives:
[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 of all the even integers from 20 to 35")

print(array)

```
[ ] import numpy as np
    array=np.arange(20,35,2)
    print("Array of all the even integers from 20 to 35")
    print(array)

    Array of all the even integers from 20 to 35
    [20 22 24 26 28 30 32 34]
```

Question-6:

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

Solution:

import numpy as np

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

print(x)

```
import numpy as np
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:

```
import numpy as np

arr1 = np.array([1, 2, 3])

arr2 = np.array([4, 5, 6])

arr = np.concatenate((arr1, arr2))

print(arr)
```

```
[ ]  import numpy as np
     arr1 = np.array([1, 2, 3])
     arr2 = np.array([4, 5, 6])
     arr = np.concatenate((arr1, arr2))
     print(arr)

     [1 2 3 4 5 6]
```

Question-8:

Create a dataframe with 3 rows and 2 columns

Solution:

```
import pandas as pd

data = [['AAA', 10], ['BBB', 15], ['CCC', 14]]

df = pd.DataFrame(data, columns=['row1', 'row2'])

df
```

```
[2]  import pandas as pd
     data = [['AAA', 10], ['BBB', 15], ['CCC', 14]]
     df = pd.DataFrame(data, columns=['row1', 'row2'])
     df
```

	row1	row2
0	AAA	10
1	BBB	15
2	CCC	14

Question-9:

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

Solution:

```
import pandas as pd

dRan1 = pd.date_range(start ='1-1-2023', periods = 41)

print(dRan1)
```

```
[ ] import pandas as pd
    dRan1 = pd.date_range(start ='1-1-2023', periods = 41)
    print(dRan1)
```

```
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:

list= {'name':['aaa', 'bbb', 'ccc'],

'score':[22,25,24]}

df = pd.DataFrame(list,index=['1','2','3'])

df

```
list= {'name':['aaa', 'bbb', 'ccc'],
       'score':[22,25,24]}
df = pd.DataFrame(list,index=['1','2','3'])
df
```

	name	score
1	aaa	22
2	bbb	25
3	ccc	24