ASSIGNMENT I

Python Programming

Assignment Date	17 September 2022
Student Name	Subasree
Student Roll Number	113219071042
Maximum Marks	2 marks

Basic Python

1. Split this string

s = "Hi there Sam!"

Solution :

s.split(" ")

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

[2]  s.split(" ")

     ['Hi', 'there', 'Sam!']
```

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

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

planet = "Earth"

diameter = 12742

Solution :

print("The diameter of {} is {} kilometers.".format(planet,diameter))

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

[4]  print("The diameter of {} is {} kilometers.".format(planet,diameter))

     The diameter of Earth is 12742 kilometers.
```

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]
```

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

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

     'hello'
```

Numpy

4.1 Create an array of 10 zeros?

Solution :

```
import numpy as np

x=np.zeros(10)

print(x)
```

```
[16] x=np.zeros(10)
     print(x)

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

4.2 Create an array of 10 fives?

Solution :

```
import numpy as np

x=np.zeros(10)*5

print(x)
```

```
[17] x=np.ones(10)*5
     print(x)

     [5. 5. 5. 5. 5. 5. 5. 5. 5. 5.]
```

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

Solution :

```
import numpy as np
x=np.arange(20,36,2)
print(x)
```

```
[18] x=np.arange(20,36,2)
     print(x)

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

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)
```

```
[19] x=np.arange(0,9).reshape(3,3)
     print(x)

     [[0 1 2]
      [3 4 5]
      [6 7 8]]
```

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])
c=np.concatenate((a,b))
print(c)
```

```
[20] 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]
```

Pandas

8. Create a dataframe with 3 rows and 2 columns

Solution :

```
import pandas as pd
df={'C1':[1,2,3], 'C2':[4,5,6]}
y=pd.DataFrame(df)
print(y)
```

```
[29] df={'C1':[1,2,3],
         'C2':[4,5,6]}
     y=pd.DataFrame(df)
     print(y)

        C1  C2
     0   1   4
     1   2   5
     2   3   6
```

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

Solution :

```
import pandas as pd
x=pd.date_range(start='1-1-2023',end='2-10-2023')
for val in x:
print(val)
```

```
[28]  2023-01-01 00:00:00
      2023-01-02 00:00:00
      2023-01-03 00:00:00
      2023-01-04 00:00:00
      2023-01-05 00:00:00
      2023-01-06 00:00:00
      2023-01-07 00:00:00
      2023-01-08 00:00:00
      2023-01-09 00:00:00
      2023-01-10 00:00:00
      2023-01-11 00:00:00
      2023-01-12 00:00:00
      2023-01-13 00:00:00
      2023-01-14 00:00:00
      2023-01-15 00:00:00
      2023-01-16 00:00:00
      2023-01-17 00:00:00
      2023-01-18 00:00:00
      2023-01-19 00:00:00
      2023-01-20 00:00:00
      2023-01-21 00:00:00
      2023-01-22 00:00:00
      2023-01-23 00:00:00
      2023-01-24 00:00:00
      2023-01-25 00:00:00
      2023-01-26 00:00:00
      2023-01-27 00:00:00
      2023-01-28 00:00:00
      2023-01-29 00:00:00
      2023-01-30 00:00:00
      2023-01-31 00:00:00
      2023-02-01 00:00:00
      2023-02-02 00:00:00
      2023-02-03 00:00:00
      2023-02-04 00:00:00
      2023-02-05 00:00:00
      2023-02-06 00:00:00
```

```
2023-02-07 00:00:00
2023-02-08 00:00:00
2023-02-09 00:00:00
2023-02-10 00:00:00
```

10. Create 2D list to DataFrame

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

Solution :

```
import pandas as pd

df=pd.DataFrame(lists)

print(df)
```

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

[25] df=pd.DataFrame(lists)
     print(df)

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