Assignment-1
PythonProgramming

Assignmen Date	19 September 2022
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Maximum Marks	2 Marks

BasicPython

Question-1:

1. Splitthisstring

   s ="Hi thereSam!"

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

Output:


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

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

Question-2:

2. Use.format()toprintthefollowingstring.

Outputshouldbe:ThediameterofEarthis12742kilometers.
```
planet =
"Earth"diameter=
12742
```

Solution:
```
planet =
"Earth"diameter=
12742
print ('The diameter of {planet} is
{measure}kilometers'.format(planet="Earth",measure=12742.34))
```

```
In [2]: planet = "Earth"
        diameter = 12742
        print ('The diameter of {planet} is {measure} kilometers'.format(planet="Earth", measure=12742.34))

        The diameter of Earth is 12742.34 kilometers
```

Question-3:

 Inthisnestdictionarygrabtheword"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']}]}]
]}
d['k1'][3]['tricky'][3]['target'][3]

Output:

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

Out[3]: 'hello'
```

Numpy

 Question-4:

importnumpy**as**np

4.1 Create anarrayof10zeros?
Solution:

```
import numpy as
nparray=np.zeros(1
0)
print("An array of 10
zeros:")print(array)
```

Output:

4.2 Create anarrayof10fives?

Solution:

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

Output:

Question-5:

Createan arrayof all theevenintegersfrom 20to35

Solution:

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

Output:

```
In [6]: 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:

Createa3x3matrix withvaluesrangingfrom 0to8

Solution:
```
importnumpyasnp
arr=np.arange(0,9).reshape(3,3)

print(arr)
```
Output:

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

```
In [7]: import numpy as np
        arr = np.arange(0,9).reshape(3,3)

        print(arr)

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

Question-7:

Concatenateaandb

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

Solution:

In []:

```
importnumpyasnp
a=np.array([[1,2,3]])

print ('First
array:')print(a)
print('\n')
b =

np.array([[4,5,6]])prin

t('Secondarray:')
```

```
print
(b)print('\n')
#boththearraysareofsamedimensions

print ('Joining the two arrays along axis
0:')print(np.concatenate((a,b)))
print('\n')

print ('Joining the two arrays along axis
1:')print(np.concatenate((a,b),axis=1))
```

Output:

```
In [8]: import numpy as np
        a = np.array([[1,2,3]])

        print ('First array:')
        print (a)
        print ('\n')
        b = np.array([[4,5,6]])

        print ('Second array:')
        print (b)
        print ('\n')
        # both the arrays are of same dimensions

        print ('Joining the two arrays along axis 0:')
        print (np.concatenate((a,b)) )
        print ('\n')

        print ('Joining the two arrays along axis 1:')
        print (np.concatenate((a,b),axis = 1))

        First array:
        [[1 2 3]]


        Second array:
        [[4 5 6]]


        Joining the two arrays along axis 0:
        [[1 2 3]
         [4 5 6]]


        Joining the two arrays along axis 1:
        [[1 2 3 4 5 6]]
```

PandasQue

stion-8:

Createadataframewith3rows and2columns

```
import pandas as pd
```

Solution:

```
import pandas as pd


data=[[10,20],[30,40],[50,60]]
```

```
#CreatethepandasDataFramewithcolumnnameisprovidedexplicitly
df=pd.DataFrame(data,columns=['Numbers','Numbers2'])

#printdataframe.
Df
```

Output:

Question-9:

Generatetheseries of datesfrom 1stJan,2023to10thFeb, 2023

In[2]:

```
importdatetime
importpandasaspd
start=datetime.datetime.strptime("01-01-2023","%d-%m-
%Y")date_generated = pd.date_range(start,
periods=41)print(date_generated.strftime("%d-%m-%Y"))
```
Output:

Question-10:

Create2DlisttoDataFrame

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

Solution:

```
lists=[[1,'aaa',22],[2,'bbb',25],[3,'ccc',24]]
import pandas as pd
lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc',
24]]pd.DataFrame(lists,columns=['a','b','c'])
```

Output:

```
In [11]: import pandas as pd
         lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]
         pd.DataFrame( lists, columns=['a', 'b', 'c'])

Out[11]:
            a    b    c
         0  1   aaa  22
         1  2   bbb  25
         2  3   ccc  24
```