Assignment -1
Python Programming
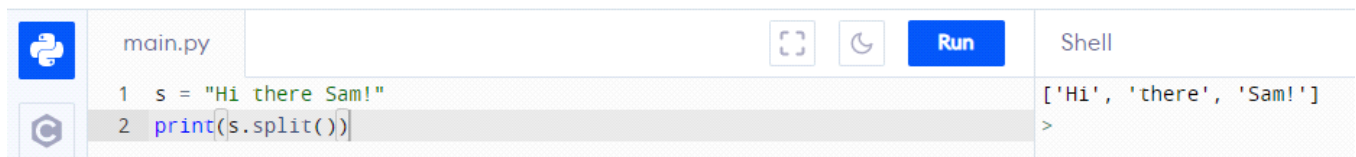
Assignment Date	19 September 2022
Student Name	Ms.Aishwarya.G
Student Roll Number	113219071001
Maximum Marks	2 Marks

Question-1:

Split this string.

Solution:

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



```
main.py                              Run        Shell
1  s = "Hi there Sam!"                          ['Hi', 'there', 'Sam!']
2  print(s.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))
#----------------------------------------#
#----------------------------------------#
```

```
main.py                          [ ]  G   Run      Shell
1  planet = "Earth"                              The diameter of Earth is 12742 kilometers.
2  diameter = 12742                              >
3  print("The diameter of {} is {} kilometers.".format(planet,diameter))
```

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']}]}]}
d['k1'][3]['tricky'][3]['target'][3]
#---------------------------------------#
#---------------------------------------#

```
main.py                              [ ]  G   Run      Shell
1  d = {'k1':[1,2,3,{'tricky':['oh','man','inception',{'target':[1,2,3   hello
      ,'hello']}]}]}                                                     >
2  print(d['k1'][3]['tricky'][3]['target'][3])
```

Question-4.1:

Create an array of 10 zeros?

Solution:

import numpy as np
x=np.zeros(10)
print(x)
#---------------------------------------#
#---------------------------------------#

```
main.py                          [ ]  G   Run      Shell
1  import numpy as np                            [0. 0. 0. 0. 0. 0. 0. 0. 0. 0.]
2  print(np.zeros(10))                           >
3  |
```

Question-4.2:

Create an array of 10 fives?

Solution:

```python
import numpy as np
x=np.ones(10)*5
print(x)
#--------------------------------------#
#--------------------------------------#
```

```
main.py                                    Run        Shell
1  import numpy as np                              [0. 0. 0. 0. 0. 0. 0. 0. 0. 0.]
2  print(np.zeros(10))                             >
3
```

Question-5:

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

Solution:

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

```
main.py                                    Run        Shell
1  import numpy as np                              [20 22 24 26 28 30 32 34]
2  print(np.arange(20,35,2))                       >
3
```

Question-6:

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

Solution:

```python
import numpy as np
x=np.arange(0,9).reshape(3,3)
print(x)
#--------------------------------------#
#--------------------------------------#
```

```python
main.py                                    Run        Shell
1   import numpy as np                              [[0 1 2]
2   print(np.arange(0,9).reshape(3,3))               [3 4 5]
3                                                    [6 7 8]]
                                                   >
```

Question-7:

Concatinate a and b

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

Solution:

```python
a=np.array([1,2,3])
b=np.array([4,5,6])
c=np.concatenate((a,b))
print(c)
#--------------------------------------#
#--------------------------------------#
```

```python
main.py                                    Run        Shell
1   import numpy as np                              [1 2 3 4 5 6]
2   a = np.array([1, 2, 3])                         >
3   b = np.array([4, 5, 6])
4   print(np.concatenate((a,b)))
5
```

Question-8:

Pandas

Create a dataframe with 3 rows and 2 columns

Solution:

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

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

```
main.py                                          Run      Shell

1  import pandas as pd                                    col_1  col_2
2  data = {'col_1': [5,7,2],                          0    5      8
3          'col_2': [8,3,6],                          1    7      3
4         }                                           2    2      6
5  df=pd.DataFrame(data)                              > |
6  print(df)
```

Question-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)
```

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

```
main.py                            [ ]  (  Run        Shell                                      Clear
1  import pandas as pd                              DatetimeIndex(['2023-01-01', '2023-01-02', '2023-01-03', '2023-01-04',
2  date=pd.date_range(start='01.01.2023',end='10.02.2023')              '2023-01-05', '2023-01-06', '2023-01-07', '2023-01-08',
3  print(date)                                                          '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]]

x=pd.DataFrame(lists)
print(x)
#---------------------------------------#
#---------------------------------------#
```

```
main.py                                          [ ]  (  Run        Shell
1  import pandas as pd                                            0   1   2
2  lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]       0  1  aaa  22
3  df=pd.DataFrame(lists)                                         1  2  bbb  25
4  print(df)                                                      2  3  ccc  24
                                                                  >
```