Assignment -1

BASIC PYTHON

Assignment Date	18 September 2022
Student Name	Mr.S.Abbas Noor Mohamed
Student Roll Number	913319104001
Maximum Marks	2 Marks

Question-1:

Split the given string s=”Hi there Sam!”

Solution:

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

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

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

Question-2:

Use .format() to print the string
planet=”earth”
diameter=12742
Output should be: The diameter of the earth is 12742 kilometers.

Solution:

```
x= "The diameter of {planet} is {diameter} kilometres.".format(planet = "Earth", diameter = 12742)
print(x)
```

```
x= "The diameter of {planet} is {diameter} kilometres.".format(planet = "Earth", diameter = 12742)
print(x)
```

```
The diameter of Earth is 12742 kilometres.
```

Question-3:

In this nest dictionary grab the word "hello"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']}]}]}

y=d['k1'][3]['tricky'][3]['target'][3]

print (y)
```

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

```
hello
```

Question-4:

4.1 Create an array of 10 zeros?

Solution:

```
import numpy as np
array=np.zeros(10,dtype='int')
print("An array of 10 zeros:",array)
```

4.2 Create an array of 10 fives?

Solution:

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

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

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

[ ] import numpy as np
    array=np.ones(10,dtype='int')*5
    print("An array of 10 fives:",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
arr=np.arange(20,35,2)
print(arr)
```

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

```
[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
a = np.array([1, 2, 3])
b = np.array([4, 5, 6])
arr = np.concatenate((a,b))
print("before concatenation")
print("a \n",a)
print("b \n",b)
print("after concatenation \n",arr)
```

```
[ ]  import numpy as np
     a = np.array([1, 2, 3])
     b = np.array([4, 5, 6])
     arr = np.concatenate((a,b))
     print("before concatenation")
     print("a \n",a)
     print("b \n",b)
     print("after concatenation \n",arr)
```

```
before concatenation
a
 [1 2 3]
b
 [4 5 6]
after concatenation
 [1 2 3 4 5 6]
```

Question-8:

Create a data frame with 3 rows and 2 columns

Solution:

```
import pandas as pd
data = [['maths', 80], ['science', 55],['social',76]]
df = pd.DataFrame(data, columns=['subjects', 'marks'])
print(df)
```

```
import pandas as pd
data = [['maths', 80], ['science', 55],['social',76]]
df = pd.DataFrame(data, columns=['subjects', 'marks'])
print(df)
```

```
  subjects  marks
0    maths     80
1  science     55
2   social     76
```

Question-9:

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

Solution:

```
import pandas as pd
x=pd.date_range('1st Jan, 2023','10th Feb, 2023')
print("series of dates\n",x)
```

```
[ ] import pandas as pd
    x=pd.date_range('1st Jan, 2023','10th Feb, 2023')
    print("series of dates\n",x)
```

```
series of dates
 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:

import pandas as pd

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

df = pd.DataFrame(lists, columns=['A', 'B','C'])

print(df)

```
[ ] import pandas as pd
    lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]
    df = pd.DataFrame(lists, columns=['A', 'B','C'])
    print(df)
```

```
   A    B   C
0  1  aaa  22
1  2  bbb  25
2  3  ccc  24
```