Assignment -1

Basic Python

Assignment Date	9 September 2022
Student Name	KARTHIK N
Student Roll Number	810019104028
Maximum Marks	2 Marks

1. Split this string s = "Hi there Sam!"

Solution:

s.split(“ ”)

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

In [2]: s.split(" ")
Out[2]: ['Hi', 'there', 'Sam!']
```

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

planet = "Earth" diameter = 12742

Output should be: The diameter of Earth is 12742 kilometers

Solution:

print(“The diameter of {planet} is {diameter} kilometres.”.format(planet,diameter))

```
In [4]: print("The diameter of {planet} is {diameter} kilometers.".format(planet="Earth", diameter=12742))
        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':[1,2,3,{'tricky':['oh','man','inception',{'target':[1,2,3,'hello']}]}]}

t=d['k1'][3]['tricky'][3]['target'][3]

```
In [5]: d = {'k1':[1,2,3,{'tricky':['oh','man','inception',{'target':[1,2,3,'hello']}]}]}

In [6]: t=d['k1'][3]['tricky'][3]['target'][3]
        t
Out[6]: 'hello'
```

4.1. Create an array of 10 zeros?

Solution:

import numpy as np

a=np.zeros(10)

```
In [10]: a=np.zeros(10)
         a
Out[10]: array([0., 0., 0., 0., 0., 0., 0., 0., 0., 0.])
```

4.2. Create an array of 10 fives?

Solution:

```
b=np.ones(10)*5
```

```
In [11]: b=np.ones(10)*5
         b
Out[11]: array([5., 5., 5., 5., 5., 5., 5., 5., 5., 5.])
```

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

Solution:

```
e=np.arange(20,35,2)
```

```
In [12]: e=np.arange(20,35,2)
         e
Out[12]: array([20, 22, 24, 26, 28, 30, 32, 34])
```

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

Solution:

```
a=np.arange(9).reshape(3,3)
```

```
In [13]: a=np.arange(9).reshape(3,3)
         a
Out[13]: array([[0, 1, 2],
                [3, 4, 5],
                [6, 7, 8]])
```

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

Solution:

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

```
In [14]: a=np.array([1,2,3])
         b=np.array([4,5,6])
         a+b
Out[14]: array([5, 7, 9])
```

8. Create a dataframe with 3 rows and 2 columns

Solution:

```
import pandas as pd
data={'col1':['Apple','Mango','Banana'],'col2':['Grapes','Guava','Orange']}
df=pd.DataFrame(data)
```

```
In [15]: import pandas as pd
```

```
In [16]: data={'col1':['Apple','Mango','Banana'],'col2':['Grapes','Guava','Orange']}
         df=pd.DataFrame(data)
         df
```

Out[16]:

	col1	col2
0	Apple	Grapes
1	Mango	Guava
2	Banana	Orange

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

Solution:

d=pd.date_range('2023-01-01','2023-02-10')

```
In [17]: d=pd.date_range('2023-01-01','2023-02-10')
         d
```

```
Out[17]: 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')
```

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]]
df=pd.DataFrame(lists)

```
In [18]: lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]
```

```
In [19]: df=pd.DataFrame(lists)
         df
```

Out[19]:

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