

## Assignment – 1

### Python Programming

Assignment Date	12/09/2022
Student Name	Vigneshwaran V
Student Roll Number	110519106034
Maximum Mark	2 Mark

1) Split this string

Solution:

```
Basic Python
1. Split this string

[1] s = "Hi there Sanjay!"
[2] s.split()

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

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

Solution:

```
2. Use .format() to print the following string.
Output should be: The diameter of Earth is 12742 kilometers.

[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”

Solution:

```
3. In this nest dictionary grab the word "hello"

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

'hello'
```

#### 4) Numpy

Solution:

```

Numpy

[ ] import numpy as np

4.1 Create an array of 10 zeros?
4.2 Create an array of 10 fives?

[ ] a = np.zeros(10)
a
array([0., 0., 0., 0., 0., 0., 0., 0., 0., 0.])

[ ] b = np.ones(10)*5
b
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:

```

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

[ ] S = np.arange(20,35,2)
S
array([20, 22, 24, 26, 28, 30, 32, 34])

```

#### 6) Create a 3×3 matrix with values ranging from 0 to 8

Solution:

```

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

[ ]
z=np.arange(9).reshape(3,3)
z
array([[0, 1, 2],
       [3, 4, 5],
       [6, 7, 8]])

```

#### 7) Concatenate a and b

Solution:

```

7. Concatenate a and b

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

[ ] a=np.array([1,2,3])
b=np.array([4,5,6])
np.concatenate((a,b),axis=0)

array([1, 2, 3, 4, 5, 6])

```

8) Create a dataframe with 3 rows and 2 columns

Solution:

```
8. Create a dataframe with 3 rows and 2 columns

[ ] import pandas as pd

[ ] d = {"name":["Mani","Peter","Vicky"],"age":[20,21,22]}
    df = pd.DataFrame(d)
    df
```

	name	age
0	Mani	20
1	Peter	21
2	Vicky	22

9) Generate the series of dates from 1<sup>st</sup> Jan, 2023 to 10<sup>th</sup> Feb, 2023

Solution:

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

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

```
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
```

10) Create 2D list to DataFrame

Solution:

```
10. Create 2D list to DataFrame

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

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

[ ] df = pd.DataFrame(lists)
    df
```

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