

Assignment-1

Assignment Date	02 September 2022
Student Name	THAVASUMOORTHIS
Student Roll Number	921319104211
Maximum Marks	2 marks

Basic Python

1. Split this string

```
In [2]: s = "Hi there Sam!"
```

```
In [3]: x=s.split()
```

```
In [ ]:
```

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

Output should be: The diameter of Earth is 12742 kilometers.

```
In [4]: planet = "Earth"  
diameter = 12742
```

```
In [5]: print("The diameter of Earth is {} kilometers".format(12742))
```

The diameter of Earth is 12742 kilometers

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

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

```
In [7]: d['k1'][3]['tricky'][3]['target'][3]
```

```
Out[7]: 'hello'
```

Numpy

```
In [8]: import numpy as np
```

4.1 Create an array of 10 zeros?

4.2 Create an array of 10 fives?

```
In [9]: np.zeros(10)
```

```
Out[9]: array([0., 0., 0., 0., 0., 0., 0., 0., 0., 0.])
```

```
In [10]: np.ones(10)*5
```

```
Out[10]: array([5., 5., 5., 5., 5., 5., 5., 5., 5., 5.])
```

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

```
In [17]: np.arange(20,36,2)
```

```
Out[17]: array([20, 22, 24, 26, 28, 30, 32, 34])
```

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

```
In [24]: np.arange(0,9).reshape((3,3))
```

```
Out[24]: array([[0, 1, 2],
               [3, 4, 5],
               [6, 7, 8]])
```

7. Concatenate a and b

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

```
In [19]: a=np.array([1,2,3])
```

```
In [20]: b=np.array([4,5,6])
```

```
In [21]: np.concatenate((a,b),axis=None)
```

```
Out[21]: array([1, 2, 3, 4, 5, 6])
```

Pandas

8. Create a dataframe with 3 rows and 2 columns

```
In [25]: import pandas as pd
```

```
In [26]: data = {"Roll-num": [10,20,30], "Age":[12,14,13]}
          block = pd.DataFrame(data)
```

```
In [27]: block = pd.DataFrame(data)
```

```
In [28]: print("Original Data frame:\n")
          print(block)
```

Original Data frame:

Roll-num	Age
----------	-----

0	10	12
1	20	14
2	30	13

In []:

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

```
In [29]: from datetime import timedelta, date
```

```
In [30]: def daterange(date1, date2):  
    for n in range(int ((date2 - date1).days)+1):  
        yield date1 + timedelta(n)
```

```
In [31]: start_dt = date(2023, 1, 1)  
end_dt = date(2023, 2, 10)
```

```
In [32]: for dt in daterange(start_dt, end_dt):  
    print(dt.strftime("%Y-%m-%d"))
```

```
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

In []:

10. Create 2D list to DataFrame

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

In [40]:

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

In [42]:

```
df=pd.DataFrame.from_records(lists)
```

Out[42]:

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

In []: