

Assignment -1
Python Programming

Assignment Date	8 September 2022
Student Name	Mr. Mothish A
Student Roll Number	910619104049
Maximum Marks	2 Marks

Basic Python

1. Split this string

```
s = "Hi there Mothish!"
```

In [1]:

```
s = "Hi there Mothish!"
print(s)
s1= s.split(" ",5)
print(s1)
```

In [2]:

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

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

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

```
planet = "Earth"
diameter = 12742
```

In []:

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

In [2]:

```
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']}]}]}
```

In []:

In [3]:

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

hello
```

Numpy

```
import numpy as np
```

In []:

4.1 Create an array of 10 zeros?

4.2 Create an array of 10 fives?

```
import numpy as np
```

In [4]:

```
a1 = np.zeros(10)
print("An Array of 10 Zeros:",a1)
An Array of 10 Zeros: [0. 0. 0. 0. 0. 0. 0. 0. 0. 0.]
```

In [5]:

```
import numpy as np
array = np.ones(10)*5
print("An Array of 10 Fives:",array)
An Array of 10 Fives: [5. 5. 5. 5. 5. 5. 5. 5. 5. 5.]
```

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

```
import numpy as np
arr = np.arange(20,35,2)
print("An array of all the even integers from 20 to 35:",arr)
An array of all the even integers from 20 to 35: [20 22 24 26 28 30 32 34]
```

In [6]:

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

```
import numpy as np
arr = np.arange(0,9).reshape(3,3)
print("A 3x3 matrix with values ranging from 0 to 8:\n",arr)
A 3x3 matrix with values ranging from 0 to 8:
```

In [7]:

```
[[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 [8]:

```
import numpy as np
a = np.array([1, 2, 3])
b = np.array([4, 5, 6])
print(a, " ", b)
c = np.concatenate((a,b))
print("Concatenated Elements:", c)
[1 2 3]    [4 5 6]
Concatenated Elements: [1 2 3 4 5 6]
```

Pandas

8. Create a dataframe with 3 rows and 2 columns

In []:

```
import pandas as pd
```

In [9]:

```
import pandas as pd
n1 = {"A":1, "B":2, "C":3}
n2 = {"A":4, "B":5, "C":6}
n3 = {"A":7, "B":8, "C":9}
dictList = [n1,n2,n3]
Data = pd.DataFrame(dictList)
print(Data)
   A  B  C
0  1  2  3
1  4  5  6
2  7  8  9
```

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

In [10]:

```
import pandas as pd
import datetime
```

```

start = datetime.datetime.strptime("01-01-2023", "%d-%m-%Y")
end = datetime.datetime.strptime("10-02-2023", "%d-%m-%Y")
date_generated = pd.date_range(start, end)
print(date_generated.strftime("%d-%m-%Y"))
Index(['01-01-2023', '02-01-2023', '03-01-2023', '04-01-2023', '05-01-2023',
      '06-01-2023', '07-01-2023', '08-01-2023', '09-01-2023', '10-01-2023',
      '11-01-2023', '12-01-2023', '13-01-2023', '14-01-2023', '15-01-2023',
      '16-01-2023', '17-01-2023', '18-01-2023', '19-01-2023', '20-01-2023',
      '21-01-2023', '22-01-2023', '23-01-2023', '24-01-2023', '25-01-2023',
      '26-01-2023', '27-01-2023', '28-01-2023', '29-01-2023', '30-01-2023',
      '31-01-2023', '01-02-2023', '02-02-2023', '03-02-2023', '04-02-2023',
      '05-02-2023', '06-02-2023', '07-02-2023', '08-02-2023', '09-02-2023',
      '10-02-2023'],
      dtype='object')

```

10. Create 2D list to DataFrame

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

In []:

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

In [11]:

```

import pandas as pd
lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]
df = pd.DataFrame(lists, columns=['Roll Number', 'Name', 'Age'])
print(df )

```

	Roll Number	Name	Age
0	1	aaa	22
1	2	bbb	25
2	3	ccc	24

In []: