

Assignment – 1

Basic Python

Assignment Date	12-09-2022
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Student Roll Number	311519106088
Maximum Marks	2 Marks

1. Split this string

```
In [22]: s = "Hi there Sam!"
```

```
In [23]: t = s.split()
          print(t)

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

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

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

```
In [24]: planet = "Earth"
          diameter = 12742
```

```
In [25]: output = "The diameter of {text1} is {text2} kilometers."
          print(output.format(text1=planet , text2=diameter))
```

The diameter of Earth is 12742 kilometers.

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

```
In [26]: d = {'k1':[1,2,3,{'tricky':['oh','man','inception',{'target':[1,2,3,'hello']}]}]}
```

```
In [27]: print(d['k1'][3]['tricky'][3]['target'][3])
```

hello

Numpy

```
In [28]: import numpy as np
```

4.1 Create an array of 10 zeros?

4.2 Create an array of 10 fives?

```
In [29]: array = np.zeros(10)
print(array)

[0. 0. 0. 0. 0. 0. 0. 0. 0. 0.]
```

```
In [30]: array = np.ones(10)*5
print(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 [31]: array = np.arange(20,35,2)
print(array)

[20 22 24 26 28 30 32 34]
```

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

```
In [32]: matrix = np.arange(0,9).reshape(3,3)
print(matrix)

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

[1 2 3 4 5 6]
```

Pandas

8. Create a dataframe with 3 rows and 2 columns

```
In [34]: import pandas as pd  
import numpy as np
```

```
In [35]: pd.DataFrame(np.random.randn(3,2))
```

Out[35]:

	0	1
0	-1.643105	-0.030009
1	-1.147235	0.645435
2	0.490651	0.262324

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

```
In [36]: dates = pd.date_range(start = '01-01-2023',end = '02-10-2023')  
for s in dates:  
    print(s)
```

```
2023-01-01 00:00:00  
2023-01-02 00:00:00  
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  
2023-01-25 00:00:00  
2023-01-26 00:00:00  
2023-01-27 00:00:00  
2023-01-28 00:00:00  
2023-01-29 00:00:00  
2023-01-30 00:00:00  
2023-01-31 00:00:00  
2023-02-01 00:00:00  
2023-02-02 00:00:00  
2023-02-03 00:00:00  
2023-02-04 00:00:00  
2023-02-05 00:00:00  
2023-02-06 00:00:00  
2023-02-07 00:00:00  
2023-02-08 00:00:00  
2023-02-09 00:00:00  
2023-02-10 00:00:00
```

10. Create 2D list to DataFrame

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

```
In [37]: 1 lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]
```

```
In [39]: 1 l2d = pd.DataFrame(lists)
2 print(l2d)
```

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