

Assignment -1

Assignment Date	26 September 2022
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Student Roll Number	310819104094
Maximum Marks	2 Marks

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Basic Python

1. Split this string

```
In [ ]:  
s = "Hi there Sam!"  
  
In [ ]:  
s = "Hi there Sam!"  
a=s.split()  
print(a)  
['Hi', 'there', 'Sam!']
```

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

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

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

```
In [ ]:
```

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

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

Numpy

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

4.1 Create an array of 10 zeros?

```
In [ ]:  
import numpy as np  
arr=np.zeros(10)  
print(arr)  
[0. 0. 0. 0. 0. 0. 0. 0. 0. 0.]
```

4.2 Create an array of 10 fives?

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

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```
In [ ]:  
import numpy as np  
arr=np.ones(10)*5  
print(arr)  
[5. 5. 5. 5. 5. 5. 5. 5. 5. 5.]
```

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

```
In [ ]:  
import numpy as np  
arr=np.arange(20,35,2)  
print(arr)  
[20 22 24 26 28 30 32 34]
```

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

```
In [ ]:  
import numpy as np  
np.arange(9).reshape((3,3))  
Out[ ]:  
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 [ ]:  
import numpy as np  
a = np.array([1, 2, 3])
```

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7. Concatenate a and b

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

```
In [ ]:  
import numpy as np  
a = np.array([1, 2, 3])  
b = np.array([4, 5, 6])  
np.concatenate((a,b), axis=0)  
Out[ ]:  
array([1, 2, 3, 4, 5, 6])
```

Pandas

8. Create a dataframe with 3 rows and 2 columns

```
In [ ]:  
import pandas as pd  
d={"names":["vishnu", "varthini", "selvam"], "age":[20,18,17]}  
df=pd.DataFrame(d)  
df  
Out[ ]:  


|   | names    | age |
|---|----------|-----|
| 0 | vishnu   | 20  |
| 1 | varthini | 18  |
| 2 | selvam   | 17  |


```

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2 selvam 17

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

```
In [ ] :  
import pandas as pd  
p=pd.date_range(start='1-1-2023', end='2-10-2023')  
for val in p:  
    print(val)
```

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

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

```
In [ ] :  
import pandas as pd  
lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]  
pd.DataFrame(lists)
```

```
Out [ ] :
```

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

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