

▼ Basic Python

▼ 1. Split this string

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

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

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

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

```
lst = [1,2,[3,4],[5,[100,200,['hello']],23,11],1,7]  
print(lst[3][1][2][0])  
  
hello
```

▼ Numpy

```
import numpy as np
```

▼ 4.1 Create an array of 10 zeros?

4.2 Create an array of 10 fives?

```
np.zeros(10)
```

```
array([0., 0., 0., 0., 0., 0., 0., 0., 0., 0.])
```

```
np.ones(10)*5
```

```
array([5., 5., 5., 5., 5., 5., 5., 5., 5., 5.])
```

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

```
array=np.arange(20,35,2)
```

```
print("Array of all the even integers from 20 to 35")
```

```
print(array)
```

```
Array of all the even integers from 20 to 35  
[20 22 24 26 28 30 32 34]
```

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

```
x = np.arange(0,9).reshape(3,3)
```

```
print(x)
```

```
[[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])
```

```
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])
```

▼ Pandas

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

```
import pandas as pd
```

```
data = [['kavi', 23], ['ram', 25], ['ramu', 27]]  
df = pd.DataFrame(data, columns=['Name', 'Age'])  
print(df)
```

	Name	Age
0	kavi	23
1	ram	25
2	ramu	27

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

```
d=pd.date_range(start='01-01-2023',end='02-10-2023')  
s=pd.Series(d)  
print(s)
```

0	2023-01-01
1	2023-01-02
2	2023-01-03
3	2023-01-04
4	2023-01-05
5	2023-01-06
6	2023-01-07
7	2023-01-08
8	2023-01-09
9	2023-01-10
10	2023-01-11
11	2023-01-12
12	2023-01-13
13	2023-01-14
14	2023-01-15
15	2023-01-16
16	2023-01-17
17	2023-01-18
18	2023-01-19
19	2023-01-20

```
20    2023-01-21
21    2023-01-22
22    2023-01-23
23    2023-01-24
24    2023-01-25
25    2023-01-26
26    2023-01-27
27    2023-01-28
28    2023-01-29
29    2023-01-30
30    2023-01-31
31    2023-02-01
32    2023-02-02
33    2023-02-03
34    2023-02-04
35    2023-02-05
36    2023-02-06
37    2023-02-07
38    2023-02-08
39    2023-02-09
40    2023-02-10
dtype: datetime64[ns]
```

▼ 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]]
```

```
d=pd.DataFrame(lists)
```

```
d
```

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

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