

## ▼ Basic Python

### ▼ 1. Split this string

```
s = "Hi there Sam!"
```

```
string = "Hi there sam!"
print(string.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
```

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

```
'The diameter ofEarth 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']}]}]}
```

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

```
'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

```
print(np.arange(20,36,2))
```

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

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

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

```
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])
```

```
import numpy as np
a = np.array([1, 2, 3])
b = np.array([4, 5, 6])
arr = np.concatenate((a,b))
print(arr)
```

```
[1 2 3 4 5 6]
```

## ▼ Pandas

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

```
import pandas as pd
```

```
df=pd.DataFrame({'X':[0,1,2], 'Y':[3,4,5]},index=['A', 'B', 'C'])  
print(df)  
print(df.T)
```

	X	Y
A	0	3
B	1	4
C	2	5

  

	A	B	C
X	0	1	2
Y	3	4	5

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

```
import datetime
```

```
# The size of each step in days
```

```
day_delta = datetime.timedelta(days=1)
```

```
start_date = datetime.datetime.strptime("01-1-2023", "%d-%m-%Y")
```

```
end_date = start_date + 41*day_delta
```

```
for i in range((end_date - start_date).days):  
    print(start_date + i*day_delta)
```

```
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]]
```

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

```

import pandas as pd
lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]
d_list=pd.DataFrame(lists,columns=['A','B','C'])
d_list

```

	A	B	C
0	1	aaa	22
1	2	bbb	25
2	3	ccc	24

---

[Colab paid products](#) - [Cancel contracts here](#)

