

▼ Basic Python

▼ 1. Split this string

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

```
x=s.split()  
print(x)
```

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

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

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

+ Code

+ Text

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

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

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

```
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

```
array1=np.arange(20,36,2)  
print(array1)  
  
[20 22 24 26 28 30 32 34]
```

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

```
array2=np.arange(0,9).reshape(3,3)  
print(array2)  
  
[[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])  
c=np.concatenate((a,b),axis=0)  
print(c)  
  
[1 2 3 4 5 6]
```

▼ Pandas

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

```
import pandas as pd
```

```
data={'A':[1,2,3],  
      'B':[4,5,6],  
      'C':[7,8,9]  
      }  
df=pd.DataFrame(data)  
df
```

	A	B	C
0	1	4	7
1	2	5	8
2	3	6	9

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

```
import datetime  
test_date = datetime.datetime.strptime("01-01-2022", "%d-%m-%Y")  
K = 41  
date_generated = pd.date_range(test_date, periods=K)  
print(date_generated.strftime("%d-%m-%Y"))
```

```
Index(['01-01-2022', '02-01-2022', '03-01-2022', '04-01-2022', '05-01-2022',  
      '06-01-2022', '07-01-2022', '08-01-2022', '09-01-2022', '10-01-2022',  
      '11-01-2022', '12-01-2022', '13-01-2022', '14-01-2022', '15-01-2022',  
      '16-01-2022', '17-01-2022', '18-01-2022', '19-01-2022', '20-01-2022',  
      '21-01-2022', '22-01-2022', '23-01-2022', '24-01-2022', '25-01-2022',  
      '26-01-2022', '27-01-2022', '28-01-2022', '29-01-2022', '30-01-2022',  
      '31-01-2022', '01-02-2022', '02-02-2022', '03-02-2022', '04-02-2022',  
      '05-02-2022', '06-02-2022', '07-02-2022', '08-02-2022', '09-02-2022',  
      '10-02-2022'],  
      dtype='object')
```

▼ 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]]
```

```
df = pd.DataFrame(lists)
print(df)
```

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

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