

## ▼ 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.

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+ Code

+ Text

---

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

```
txt1 = "The diameter of {0} is {1} kilometers.".format(planet,diameter)  
print(txt1)
```

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

```
a = d['k1'][3]['tricky'][3]['target'][3]  
print(a)
```

```
hello
```

## ▼ Numpy

```
import numpy as np
```

### ▼ 4.1 Create an array of 10 zeros?

## 4.2 Create an array of 10 fives?

```
ten_zeros = np.zeros(10)
print(ten_zeros)

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

```
ten_five = np.ones(10)*5
print(ten_five)

[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)
array1 = (array%2 == 0)
out = array[array1]
print(out)

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

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

```
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])
```

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

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

## ▼ Pandas

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

```
import pandas as pd
```

```
data_frame = {'col_1': [0,0,0], 'col_2': [0,0,0]}
df = pd.DataFrame(data=data_frame)
print(df)
```

```
   col_1  col_2
0      0      0
1      0      0
2      0      0
```

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

```
dates = pd.date_range(start = '1-1-2023',
                      end = '2-10-2023')
print(dates)
```

```
DatetimeIndex(['2023-01-01', '2023-01-02', '2023-01-03', '2023-01-04',
               '2023-01-05', '2023-01-06', '2023-01-07', '2023-01-08',
               '2023-01-09', '2023-01-10', '2023-01-11', '2023-01-12',
               '2023-01-13', '2023-01-14', '2023-01-15', '2023-01-16',
               '2023-01-17', '2023-01-18', '2023-01-19', '2023-01-20',
               '2023-01-21', '2023-01-22', '2023-01-23', '2023-01-24',
               '2023-01-25', '2023-01-26', '2023-01-27', '2023-01-28',
               '2023-01-29', '2023-01-30', '2023-01-31', '2023-02-01',
               '2023-02-02', '2023-02-03', '2023-02-04', '2023-02-05',
               '2023-02-06', '2023-02-07', '2023-02-08', '2023-02-09',
               '2023-02-10'],
              dtype='datetime64[ns]', freq='D')
```

### ▼ 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]]
```

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

```
   0  1  2
0  1  aaa  22
```

```
1 2 bbb 25
2 3 ccc 24
```

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