

## ▼ 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.

```
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)*1

array([1., 1., 1., 1., 1., 1., 1., 1., 1., 1.])
```

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

	Name	Age
0	kalvi	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='02-02-2023')  
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
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	