

## ▼ 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

print("the diameter of {} is {} kilometers".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']}]}]}

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?

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

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

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

```
[5. 5. 5. 5. 5. 5. 5. 5. 5. 5.]
```

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

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

```
array([20, 22, 24, 26, 28, 30, 32, 34])
```

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

```
import numpy as np
array = np.arange(0,9).reshape(3,3)
print(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
arr1= np.array([1,2,3])
arr2= np.array([4,5,6])
arr3= np.concatenate((arr1,arr2),axis=0)
print(arr3)
```

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

### ▼ Pandas

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

```
import pandas as pd
```

```
data = [['tom', 10] , ['nick', 15], ['juli', 14]]
df= pd.DataFrame(data,columns= ['Name', 'Age'])
df
```

	Name	Age
0	tom	10
1	nick	15
2	juli	14



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

```
from datetime import timedelta, date

def daterange(date1, date2):
    for n in range(int ((date2 - date1).days)+1):
        yield date1 + timedelta(n)

start_dt = date(2023,1,1)
end_dt = date(2023,2,10)
for dt in daterange(start_dt, end_dt):
    print(dt.strftime("%d-%m-%y"))
```

## ▼ 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
df= pd.DataFrame(lists)
df
```

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

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