

▼ Basic Python

▼ 1. Split this string

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

```
p=s.split(" ")  
p
```

```
['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 %s is %s kilometers.' %  
      (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']}]}]}
```

```
xp=d["k1"]  
op=xp[3]  
op2=op['tricky']  
op3=op2[3]  
op4=op3['target']  
op5=op4[3]  
op5
```

```
'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)  
array
```

```
array([0., 0., 0., 0., 0., 0., 0., 0., 0., 0.])
```

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

```
array([5., 5., 5., 5., 5., 5., 5., 5., 5., 5.])
```

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

```
arr=[]  
for i in range(20,35):  
    if i%2==0:  
        arr.append(i)  
arr
```

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

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

```
import numpy as np  
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])
```

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

```
x=np.concatenate((a, b), axis=0)
x
```

```
array([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

```
per1 = pd.date_range(start = '1-1-2023',
                      end = '10-02-2023')
```

```
for val in per1:
    print(val)
```

▼ 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, columns = ['S.no', 'Name', 'Age'])
df
```

	S.no	Name	Age
0	1	aaa	22
1	2	bbb	25
2	3	ccc	24