

▼ 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 {planet} is {diameter} Kilometers.".format(planet="Earth",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?

```
import numpy as np
x = np.zeros(10)
print(x)
```

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

```
import numpy as np
x = np.zeros(10)
print(x)
```

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

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

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

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

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

```
import numpy as np
W=np.arange(0,9).reshape(3,3)
print(W)
```

```
[[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])
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 = [['ba', 7], ['be', 8], ['wc', 9]]  
df = pd.DataFrame(data, columns=['C1', 'C2'])  
df
```

	C1	C2
0	ba	7
1	be	8
2	wc	9

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

```
import pandas as pd  
pd.date_range(start='1/1/2023', end='02/10/2023')  
  
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]]
```

```
import pandas as pd
lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]
df=pd.DataFrame(lists,columns = ['ID','NAME','AGE'])
print(df)
```

	ID	NAME	AGE
0	1	aaa	22
1	2	bbb	25
2	3	ccc	24

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