

▼ Basic Python

▼ 1. Split this string

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

```
n=s.split()  
print(n)
```

```
['Hi', 'there', 'Sam!']
```

▼ 2. Use .format() to print the following string.

Output should be: The diameter of Earth is 12742 kilometers.

+ Code

+ Text

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

```
star="The diameter of {p} is {d} kilometers "  
print(star.format(p=planet,d=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("An array of 10 zeros")
print(array)
```

```
An array of 10 zeros
[0. 0. 0. 0. 0. 0. 0. 0. 0. 0.]
```

```
array=np.ones(10)*5
print("An array of 10 fives")
print(array)
```

```
An array of 10 fives
[5. 5. 5. 5. 5. 5. 5. 5. 5. 5.]
```

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

```
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

```
a=np.arange(0,9).reshape(3,3)
print(a)
```

```
[[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])
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=[['vasan',10],['vasi',20],['sv',30]]
a=pd.DataFrame(data,columns=['Name','Age'])
print(a)
```

	Name	Age
0	vasan	10
1	vasi	20
2	sv	30

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

```
from datetime import date,timedelta
sdate =date(2023,1,1)
edate=date(2023,2,11)
[sdate+timedelta(days=x)for x in range((edate-sdate).days)]
```

```
[datetime.date(2023, 1, 1),
datetime.date(2023, 1, 2),
datetime.date(2023, 1, 3),
datetime.date(2023, 1, 4),
datetime.date(2023, 1, 5),
datetime.date(2023, 1, 6),
datetime.date(2023, 1, 7),
datetime.date(2023, 1, 8),
datetime.date(2023, 1, 9),
datetime.date(2023, 1, 10),
datetime.date(2023, 1, 11),
datetime.date(2023, 1, 12),
datetime.date(2023, 1, 13),
datetime.date(2023, 1, 14),
datetime.date(2023, 1, 15),
datetime.date(2023, 1, 16),
datetime.date(2023, 1, 17),
datetime.date(2023, 1, 18),
datetime.date(2023, 1, 19),
datetime.date(2023, 1, 20),
datetime.date(2023, 1, 21),
datetime.date(2023, 1, 22),
datetime.date(2023, 1, 23),
datetime.date(2023, 1, 24),
```

```
datetime.date(2023, 1, 25),
datetime.date(2023, 1, 26),
datetime.date(2023, 1, 27),
datetime.date(2023, 1, 28),
datetime.date(2023, 1, 29),
datetime.date(2023, 1, 30),
datetime.date(2023, 1, 31),
datetime.date(2023, 2, 1),
datetime.date(2023, 2, 2),
datetime.date(2023, 2, 3),
datetime.date(2023, 2, 4),
datetime.date(2023, 2, 5),
datetime.date(2023, 2, 6),
datetime.date(2023, 2, 7),
datetime.date(2023, 2, 8),
datetime.date(2023, 2, 9),
datetime.date(2023, 2, 10)]
```

▼ 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]]
```

```
lists = [[1, 'aaa', 22], [2, 'bbb', 25], [3, 'ccc', 24]]
```

```
a=pd.DataFrame(lists,columns=['Number','FName','Age'])
print(a)
```

	Number	FName	Age
0	1	aaa	22
1	2	bbb	25
2	3	ccc	24

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