

▼ 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 earth is {diameter} kilometers".format(diameter=12742))
```

```
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
np.zeros(10)
```

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

```
import numpy as np
np.ones(10) * 5
```

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

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

```
print(np.arange(20,35,2))
```

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

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

```
np.arange(0,9).reshape((3,3))
```

```
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])
```

```
a = np.array([1, 2, 3])
b = np.array([4, 5, 6])
c=np.concatenate((a,b))
print(c)
```

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

▼ Pandas

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

```
import pandas as pd
```

```
import pandas as pd
```

```
data = [10,20,30,]
```

```
df = pd.DataFrame(data, columns=['Numbers'])
```

```
df
```

1 to 3 of 3 entries

index	Numbers
0	
1	
2	

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

```
import pandas as pd
```

```
per1 = pd.date_range(start = '1-1-2023',  
                    end = '10-2-2023', freq = '5H')
```

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

```
2023-06-09 09:00:00  
2023-06-09 14:00:00  
2023-06-09 19:00:00  
2023-06-10 00:00:00  
2023-06-10 05:00:00  
2023-06-10 10:00:00  
2023-06-10 15:00:00  
2023-06-10 20:00:00  
2023-06-11 01:00:00  
2023-06-11 06:00:00  
2023-06-11 11:00:00  
2023-06-11 16:00:00  
2023-06-11 21:00:00  
2023-06-12 02:00:00  
2023-06-12 07:00:00
```

```
2023-06-12 12:00:00
2023-06-12 17:00:00
2023-06-12 22:00:00
2023-06-13 03:00:00
2023-06-13 08:00:00
2023-06-13 13:00:00
2023-06-13 18:00:00
2023-06-13 23:00:00
2023-06-14 04:00:00
2023-06-14 09:00:00
2023-06-14 14:00:00
2023-06-14 19:00:00
2023-06-15 00:00:00
2023-06-15 05:00:00
2023-06-15 10:00:00
2023-06-15 15:00:00
2023-06-15 20:00:00
2023-06-16 01:00:00

2023-06-16 06:00:00
2023-06-16 11:00:00
2023-06-16 16:00:00
2023-06-16 21:00:00
2023-06-17 02:00:00
2023-06-17 07:00:00
2023-06-17 12:00:00
2023-06-17 17:00:00
2023-06-17 22:00:00
2023-06-18 03:00:00
2023-06-18 08:00:00
2023-06-18 13:00:00
2023-06-18 18:00:00
2023-06-18 23:00:00
2023-06-19 04:00:00
2023-06-19 09:00:00
2023-06-19 14:00:00
2023-06-19 19:00:00
2023-06-20 00:00:00
2023-06-20 05:00:00
2023-06-20 10:00:00
2023-06-20 15:00:00
2023-06-20 20:00:00
2023-06-21 01:00:00
2023-06-21 06:00:00
2023-06-21 11:00:00
```

▼ 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)
```

```
print(a)
```

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

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✓ 0s completed at 10:25

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