

▼ Basic Python

▼ 1. Split this string

```
s = "Hi there Sam!"

s.split()

['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

planet="Earth"
diameter=12427
print(f"The diameter of the earth is {diameter}kilometers")

The diameter of the earth is 12427kilometers
```

▼ 3. In this nest dictionary grab the word "hello"

```
d = {'k1':[1,2,3,{'tricky':['oh','man','inception',{'target':[1,2,3,'hello']}]}]}

display=d["k1"][3]["tricky"][3]["target"][3]
print(display)

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.]
```

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

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

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

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

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

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

```
x=np.arange(9)  
x  
x.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])  
np.concatenate((a,b),axis=0)
```

```
array([1, 2, 3, 4, 5, 6])
```

▼ Pandas

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

```
import pandas as pd
```

```
d={"Name":["koks','naf','kavi'],
   "Age":[20,21,22]}
d1=pd.DataFrame(d)
d1
```

	Name	Age
0	koks	20
1	naf	21
2	kavi	22

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

```
import datetime
start = datetime.datetime.strptime("01-01-2023", "%d-%m-%Y")
end = datetime.datetime.strptime("01-01-2023", "%d-%m-%Y")
x = pd.date_range(start,end)
x

DatetimeIndex(['2023-01-01'], 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]]
```

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

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