# Shape and Reshape ★

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**shape**

The shape tool gives a tuple of array dimensions and can be used to change the dimensions of an array.

**(a). Using shape to get array dimensions**

```
import numpy

my__1D_array = numpy.array([1, 2, 3, 4, 5])
print my_1D_array.shape    #(5,) -> 1 row and 5 columns

my__2D_array = numpy.array([[1, 2],[3, 4],[6,5]])
print my_2D_array.shape    #(3, 2) -> 3 rows and 2 columns
```

**(b). Using shape to change array dimensions**

```
import numpy

change_array = numpy.array([1,2,3,4,5,6])
change_array.shape = (3, 2)
print change_array

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

**reshape**

The reshape tool gives a new shape to an array without changing its data. It creates a new array and does not modify the original array itself.

```
import numpy

my_array = numpy.array([1,2,3,4,5,6])
print numpy.reshape(my_array,(3,2))

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

**Task**

You are given a space separated list of nine integers. Your task is to convert this list into a $3 \times 3$ NumPy array.

**Input Format**

A single line of input containing $9$ space separated integers.

**Output Format**

Print the 3X3 NumPy array.

**Sample Input**

```
1 2 3 4 5 6 7 8 9
```

**Sample Output**

```
[[1 2 3]
 [4 5 6]
 [7 8 9]]
```

Change Theme | Python 3

```
1  import numpy as np
2
3  if __name__ == '__main__':
4      lista_numeros = list(map(int, input().split()))
5
6      arreglo_numeros = np.array(lista_numeros)
7
8      arreglo_numeros.shape = (3, 3)
9      print(arreglo_numeros)
10
```

Line: 10 Col: 1

Upload Code as File | Test against custom input | Run Code | Submit Code

## Compilation Successful :)

Click the Submit Code button to run your code against all the test cases.

Input (stdin) Download

```
1 2 3 4 5 6 7 8 9
```

Your Output (stdout)

```
[[1 2 3]
 [4 5 6]
 [7 8 9]]
```