Shape and Reshape

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,) -> 5 rows and 0 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 3X3 *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]]
```