

numpy_array_management_workbook_answers

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1 NUMPY ARRAY MANAGEMENT WORKBOOK ANSWERS

Remember, there are different ways to write code to get the same answer, so your answer can be correct and different to the answer example!

If you feel stuck and want some in person help, then have a look at the events page to join in a workshop <https://swamphen.co.uk/events>.

```
In [ ]: # import NumPy
import numpy as np
```

```
In [ ]: # create an array of floats 6 rows 5 columns
my_array = np.random.rand(6,5)
print(my_array)
```

```
In [ ]: # extract a sub array of the four numbers in the bottom right of the array
sub_array = my_array[-2:,-2:]
print(sub_array)
```

```
In [ ]: # change the top left element to be 10
sub_array[0][0] = 10
print(sub_array)
```

```
In [ ]: # check that has changed in the original array
print(my_array)
```

```
In [ ]: # change the element back to the original value in the original array
my_array[4,3] = 0.76510415
print(my_array)
```

```
In [ ]: # reshape the array to 5 rows 6 columns
new_array = my_array.reshape([5,6])
print(new_array)
```

```
In [ ]: # reshape this new array to another shape that will work!
new_new_array = new_array.reshape([3,10])
print(new_new_array)
```

```
In [ ]: # make a copy of the first row of this reshaped array
copy_array = new_new_array[0,:].copy()
print(copy_array)
```

```

In [ ]: # change these array values to all being 12
        copy_array[:] = 12
        print(copy_array)

In [ ]: # make a copy of the last two rows of this reshaped array
        copy_two_array = new_new_array[-2:,:].copy()
        print(copy_two_array)

In [ ]: # stack these 3 arrays vertically
        stacked = np.vstack([new_new_array, copy_array, copy_two_array])
        print(stacked)

In [ ]: # split the array equally horizontally and give them each variable names
        a, b = np.array_split(stacked, 2)
        print(a)
        print(b)

In [ ]: # select the last row of the bottom array created above
        test = b[-1][:]
        print(test)

In [ ]: # create a filter for values less than 0.5
        new_filter = []

        for element in test:
            if element < 0.5:
                new_filter.append(True)
            else:
                new_filter.append(False)

        print(new_filter)

In [ ]: # apply the filter to your array
        test[new_filter]

```