

numpy_an_introduction_workbook_answers

September 21, 2020

1 NUMPY AN INTRODUCTION 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 a python list of floats
# print this out
my_list = [3.4,5.6,2.3,9.9,5.6,2.2]
print(my_list)
```

```
In [ ]: # convert this to a NumPy array
# print this out
my_array = np.array(my_list)
print(my_array)
```

```
In [ ]: # what is the difference between these two?

# comma separation
# how they can be manipulated
```

```
In [ ]: # check the type of the two arrays
print(type(my_list))
print(my_array.dtype)
```

```
In [ ]: # change the array into an integer
int_array = np.array(my_array, dtype = 'i')
print(int_array)
```

```
In [ ]: # change the array into a string
str_array = np.array(int_array, dtype='S')
print(str_array)
```

```
In [ ]: # create a NumPy array of today's date
today = np.array('2020-06-02')
```

```
In [ ]: # check its type
        today.dtype

In [ ]: # is this going to work as a date time

        # no

In [ ]: # create a valid date and time array for the date and time now
        now = np.datetime64('2020-06-06T16:30:44')
        print(now)

In [ ]: # convert this to the correct day and time in New Zealand
        # (I recommend timeanddate.com to do this conversion)

        nz = now + np.timedelta64(13, 'h')
        print(nz)

In [ ]: # convert this to the non-summer time adjusted time for where you live
        non_summer = now - np.timedelta64(1, 'h')
        print(non_summer)
```