**Python Code Challenges: Lists (Advanced)**

**Difficult Python Code Challenges involving Lists**

This article will help you review Python functions by providing some code challenges involving lists.

Some of these challenges are difficult! Take some time to think about them before starting to code.

You might not get the solution correct on your first try — look at your output, try to find where you’re going wrong, and iterate on your solution.

Finally, if you get stuck, use our solution code! If you “Check Answer” twice with an incorrect solution, you should see an option to get our solution code. However, truly investigate that solution — experiment and play with the solution code until you have a good grasp of how it is working. Good luck!

**Function Syntax**

As a refresher, function syntax looks like this:

def some\_function(some\_input1, some\_input2):  
  # … do something with the inputs …  
  return output

For example, a function that returns the sum of the first and last elements of a given list might look like this:

def first\_plus\_last(lst):  
  return lst[0] + lst[-1]

And this would produce output like:

>>> first\_plus\_last([1, 2, 3, 4])  
5  
>>> first\_plus\_last([8, 2, 5, -8])  
0  
>>> first\_plus\_last([-10, 2, 3, -4])  
-14

**Challenges**

We’ve included 5 list challenges below. Try to answer all of them and polish up your problem-solving skills and your list expertise!

**1. Every Three Numbers**

Let’s start our challenging problems with a function that creates a list of numbers up to 100 in increments of 3 starting from a number that is passed to the function as an input parameter. Here is what we need to do:

1. Define the function to accept one parameter for our starting number
2. Calculate the numbers between the starting number and 100 while incrementing by 3
3. Store the numbers in a list
4. Return the list