

Lists Part 2

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Python

Lists with numbers!

It's possible to create lists with a bunch of numbers!

```
thislist = [1, 2, 3]
```

Output when printed: `[1, 2, 3]`

Lists with loops

Lists and **loops** are like **Spongebob** and **Patrick!**

Just like arrays in Java/C++!

Lists with loops

```
thislist = ["apple", "banana", "cherry"]
```

Index

0

1

2

The list above has indexes 0, 1, and 2. Each item can be printed/edited like the below.

```
print(thislist[0])  
print(thislist[1])  
print(thislist[2])
```

```
thislist[0] = "potato"  
thislist[1] = "chicken"  
thislist[2] = "tomato"
```

Lists with loops

Loops go through the same iteration of numbers!

Compare the differences below, what are the outputs?

```
print(thislist[0])  
print(thislist[1])  
print(thislist[2])
```

```
for i in range(0,3):  
    print(thislist[i])
```

Lists with loops

Both of these print out the entire list!

```
print(thislist[0])  
print(thislist[1])  
print(thislist[2])
```

```
for i in range(0,3):  
    print(thislist[i])
```

Output:

```
apple  
banana  
cherry
```

Lists with loops

In the for loop below,

i counts from **0**,

then to **1**,

then to **2**.

The following commands would be run:

`print(thislist[0])`

`print(thislist[1])`

`print(thislist[2])`

```
for i in range(0,3):  
    print(thislist[i])
```

List Append

Given the following list, we can also add items to the end using append!

```
thislist = ["apple", "banana", "cherry"]
```

If we run the following code:

```
thislist.append("potato")
```

Then our list will look like the below!

```
thislist = ["apple", "banana", "cherry", "potato"]
```


Editing lists in loops

To edit lists within loops,
we must first create a list
variable.



```
thislist = []  
for i in range(0,3):  
    thislist.append("potato")
```

What does the list look like after
the loop?

Editing lists in loops

```
thislist = []  
for i in range(0,3):  
    thislist[i] = "potato"
```

The loop above will create
3 potatoes within the list!

```
['potato', 'potato', 'potato']
```

Lab: List Part 2

1. Create a list of random numbers!
2. Have the user input how many numbers they would like to create.
3. Create a list of random numbers (between 1 and 10)
4. Then print them all out with commas between each value.

Example Output:

How many random numbers would you like? **5**

Your numbers are: **7, 6, 3, 9, 10**