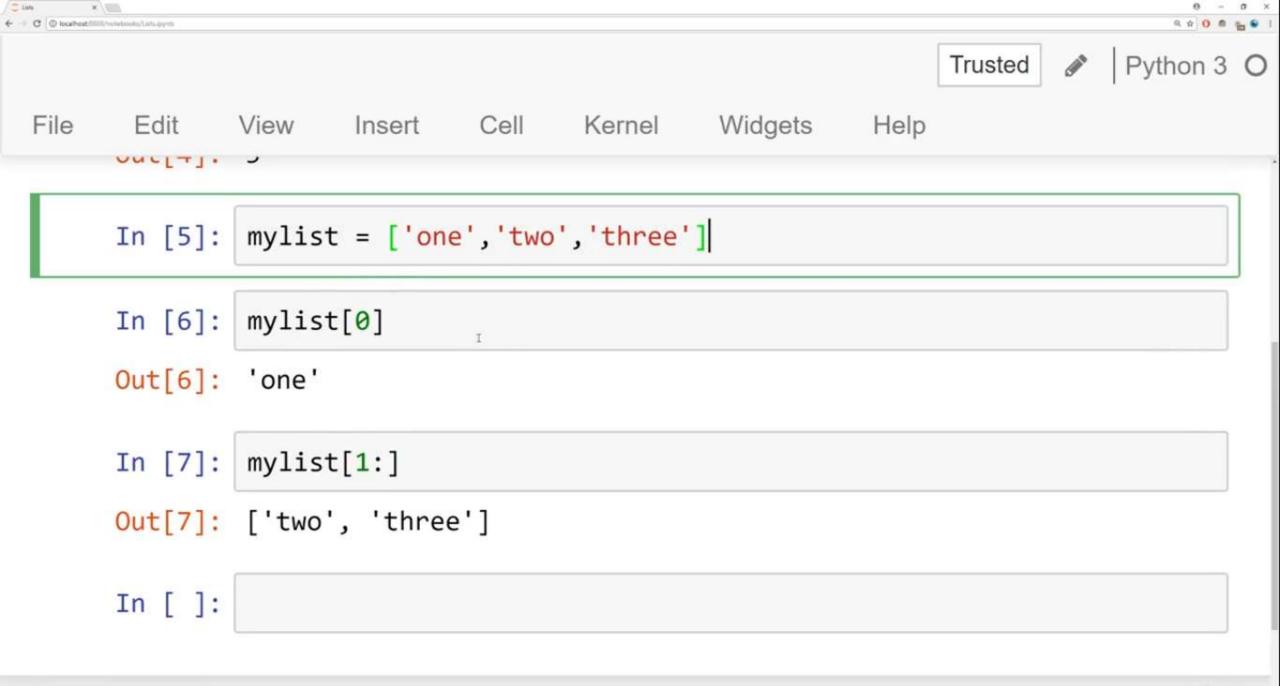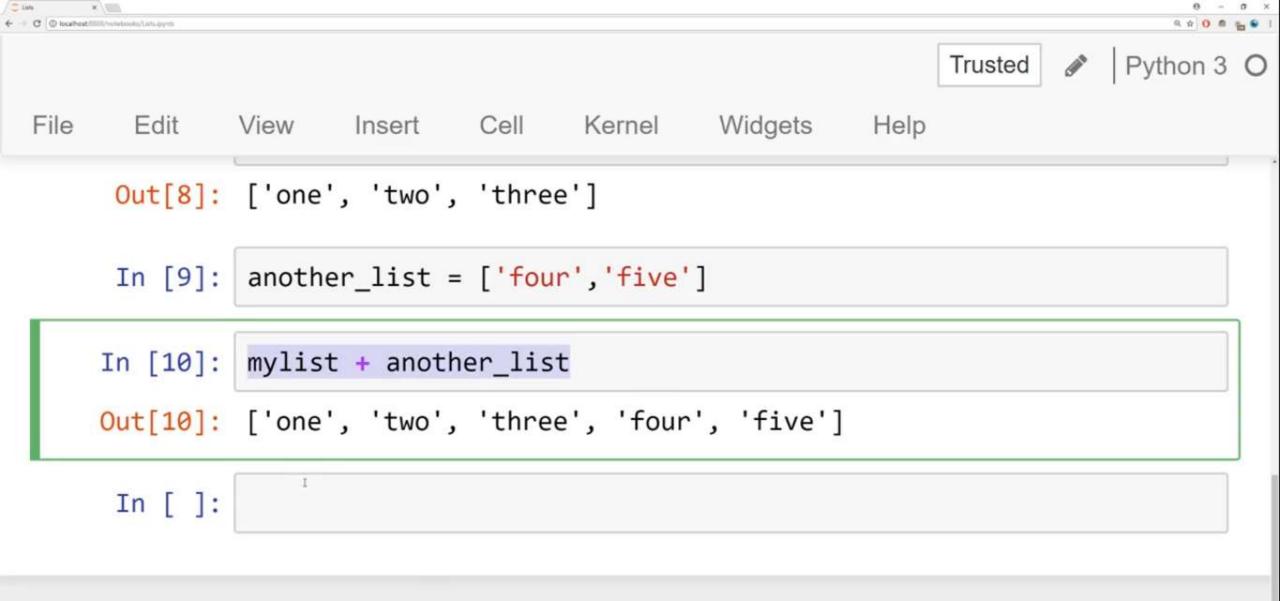# Lists

Complete Python 3 Bootcamp

- Lists are ordered sequences that can hold a variety of object types.
- They use [] brackets and commas to separate objects in the list.
  - **[1,2,3,4,5]**
- Lists support indexing and slicing. Lists can be nested and also have a variety of useful methods that can be called off of them.

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```python
In [2]: my_list = [1,2,3]
```

```python
In [3]: my_list = ['STRING',100,23.2]
```

```python
In [4]: len(my_list)
```

Out[4]: 3

```python
In [ ]:
```

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Out[4]: 3

```python
In [5]: mylist = ['one','two','three']
```

```python
In [6]: mylist[0]
```

Out[6]: 'one'

```python
In [7]: mylist[1:]
```

Out[7]: ['two', 'three']

```python
In [ ]:
```

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Out[8]: ['one', 'two', 'three']

In [9]: `another_list = ['four','five']`

In [10]: `mylist + another_list`

Out[10]: ['one', 'two', 'three', 'four', 'five']

In [ ]:

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```
Out[15]: ['one', 'two', 'three', 'four', 'five']
```

```
In [16]: new_list[0] = 'ONE ALL CAPS'
```

```
In [17]: new_list
```

```
Out[17]: ['ONE ALL CAPS', 'two', 'three', 'four', 'five']
```

```
In [ ]:
```

```
Out[17]: ['ONE ALL CAPS', 'two', 'three', 'four', 'five']
```

```
In [18]: new_list.append('six')
```

```
In [19]: new_list
```

```
Out[19]: ['ONE ALL CAPS', 'two', 'three', 'four', 'five', 'six']
```

```
In [ ]:
```

```
Out[17]: ['ONE ALL CAPS', 'two', 'three', 'four', 'five']
```

```
In [18]: new_list.append('six')
```

```
In [19]: new_list
```

```
Out[19]: ['ONE ALL CAPS', 'two', 'three', 'four', 'five', 'six']
```

```
In [20]: new_list.append('seven')
```

```
In [21]: new_list
```

```
Out[21]: ['ONE ALL CAPS', 'two', 'three', 'four', 'five', 'six', 'seven']
```

```
In [ ]:
```

```
Out[19]:  ['ONE ALL CAPS', 'two', 'three', 'four', 'five', 'six']

In [20]:  new_list.append('seven')

In [21]:  new_list

Out[21]:  ['ONE ALL CAPS', 'two', 'three', 'four', 'five', 'six', 'seven']

In [23]:  new_list.pop()

Out[23]:  'seven'

In [24]:  new_list

Out[24]:  ['ONE ALL CAPS', 'two', 'three', 'four', 'five', 'six']

In [ ]:
```

```
In [21]: new_list
```

Out[21]: ['ONE ALL CAPS', 'two', 'three', 'four', 'five', 'six', 'seven']

```
In [23]: new_list.pop()
```

Out[23]: 'seven'

```
In [24]: new_list
```

Out[24]: ['ONE ALL CAPS', 'two', 'three', 'four', 'five', 'six']

```
In [25]: popped_item = new_list.pop()
```

```
In [ ]:
```

```
In [26]: popped_item
```

Out[26]: 'six'

```
In [27]: new_list
```

Out[27]: ['ONE ALL CAPS', 'two', 'three', 'four', 'five']

```
In [28]: new_list.pop(0)
```

Out[28]: 'ONE ALL CAPS'

```
In [29]: new_list
```

Out[29]: ['two', 'three', 'four', 'five']

```
In [ ]:
```

Out[29]: [two , three , four , five]

```
In [30]: new_list = ['a','e','x','b','c']
         num_list = [4,1,8,3]
```

```
In [31]: new_list.sort()
```

```
In [ ]:
```

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```python
In [30]: new_list = ['a','e','x','b','c']
         num_list = [4,1,8,3]
```

```python
In [31]: new_list.sort()
```

```python
In [32]: new_list
```

Out[32]: ['a', 'b', 'c', 'e', 'x']

```python
In [ ]: my_sorted_list = new_list.sort()
```

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Out[32]: ['a', 'b', 'c', 'e', 'x']

In [33]: my_sorted_list = new_list.sort()

In [35]: type(my_sorted_list)

Out[35]: NoneType

In [ ]:

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In [36]: **None**

In [37]:
```python
new_list.sort()
my_sorted_list = new_list
```

In [38]:
```python
my_sorted_list
```

Out[38]: `['a', 'b', 'c', 'e', 'x']`

In [ ]: `nu`

Python 3

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```python
In [39]: num_list
```

Out[39]: [4, 1, 8, 3]

```python
In [40]: num_list.sort()
```

```python
In [ ]: n
```

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Out[39]:   [4, 1, 8, 3]

```
In [40]:  num_list.sort()
```

```
In [41]:  num_list
```

Out[41]:   [1, 3, 4, 8]

```
In [ ]:
```

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Out[41]: [1, 3, 4, 8]

In [42]: `num_list.reverse()`

In [43]: `num_list`

Out[43]: [8, 4, 3, 1]

In [ ]: