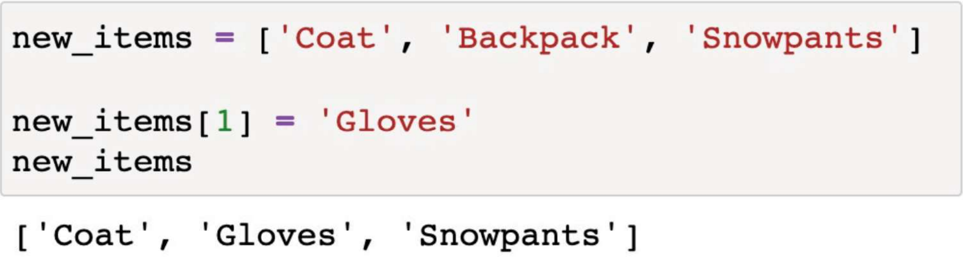
# CHANGING LIST ELEMENTS

List Basics
List Operations
Modifying Lists
List Functions & Methods
Nested Lists
Copying Lists
Tuples
Ranges

Lists elements can be **changed**, but not added, by using indexing

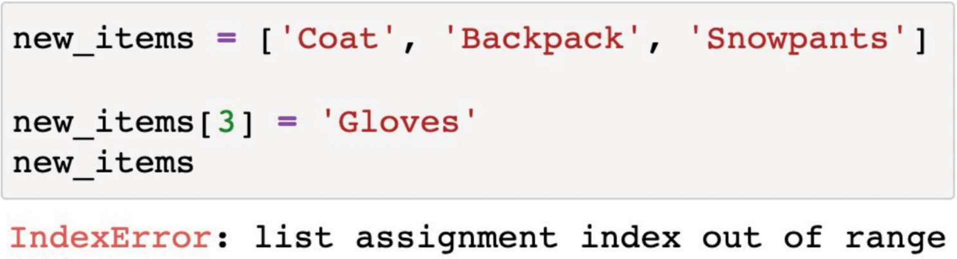


```
new_items = ['Coat', 'Backpack', 'Snowpants']

new_items[1] = 'Gloves'
new_items

['Coat', 'Gloves', 'Snowpants']
```

*The second element in the list has changed from 'Backpack' to 'Gloves'*



```
new_items = ['Coat', 'Backpack', 'Snowpants']

new_items[3] = 'Gloves'
new_items

IndexError: list assignment index out of range
```

*The list only has 3 elements, so an index of 3 (the fourth element) does not exist*

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# ADDING LIST ELEMENTS

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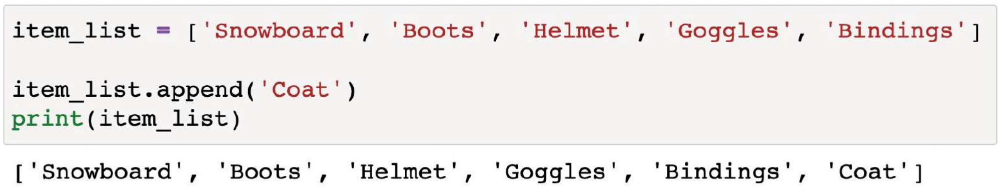
You can **.append()** or **.insert()** a new element to a list

- **.append(*element*)** – adds an element to the end of the list
- **.insert(*index*, *element*)** – adds an element to the specified index in the list

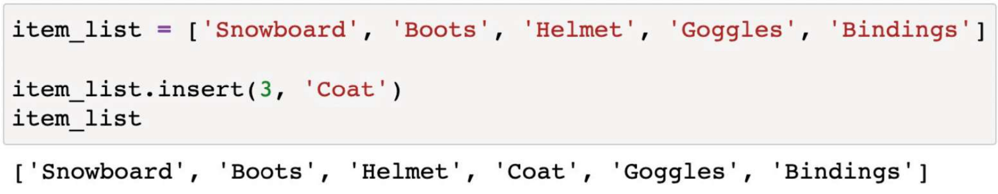


```
item_list = ['Snowboard', 'Boots', 'Helmet', 'Goggles', 'Bindings']

item_list.append('Coat')
print(item_list)
```

```
['Snowboard', 'Boots', 'Helmet', 'Goggles', 'Bindings', 'Coat']
```

*'Coat' was added as the last element in the list*



```
item_list = ['Snowboard', 'Boots', 'Helmet', 'Goggles', 'Bindings']

item_list.insert(3, 'Coat')
item_list
```

```
['Snowboard', 'Boots', 'Helmet', 'Coat', 'Goggles', 'Bindings']
```

*'Coat' was added as the fourth element in the list*

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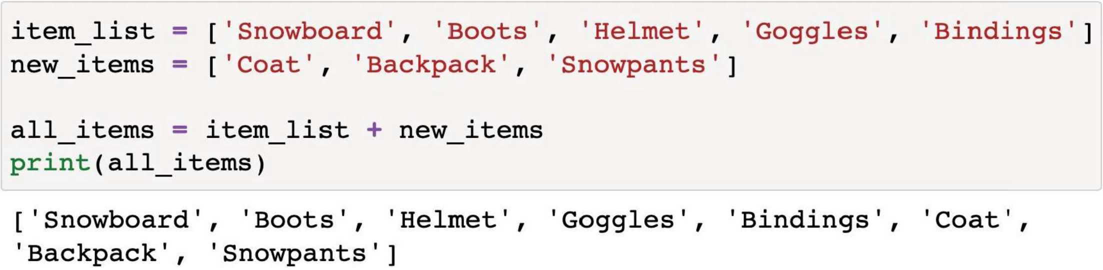
# COMBINING & REPEATING LISTS

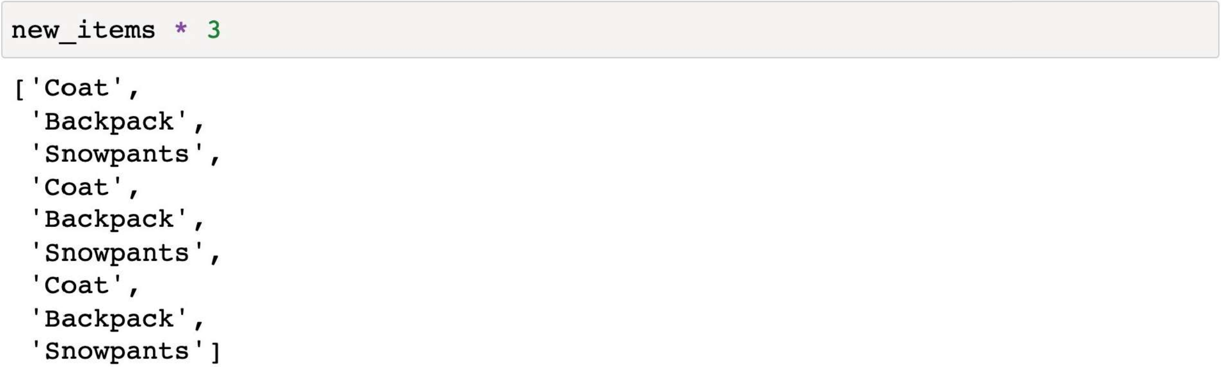
Lists can be **combined**, or concatenated, with **+** and **repeated** with *



```
item_list = ['Snowboard', 'Boots', 'Helmet', 'Goggles', 'Bindings']
new_items = ['Coat', 'Backpack', 'Snowpants']

all_items = item_list + new_items
print(all_items)
```

```
['Snowboard', 'Boots', 'Helmet', 'Goggles', 'Bindings', 'Coat',
'Backpack', 'Snowpants']
```



```
new_items * 3
```

```
['Coat',
 'Backpack',
 'Snowpants',
 'Coat',
 'Backpack',
 'Snowpants',
 'Coat',
 'Backpack',
 'Snowpants']
```

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# REMOVING LIST ELEMENTS

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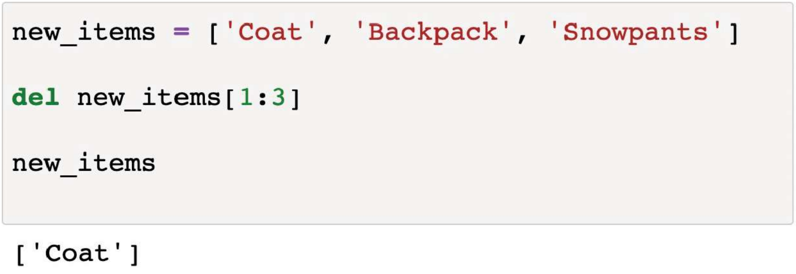
There are two ways to **remove** lists elements:

1. The **del** keyword deletes the selected elements from the list



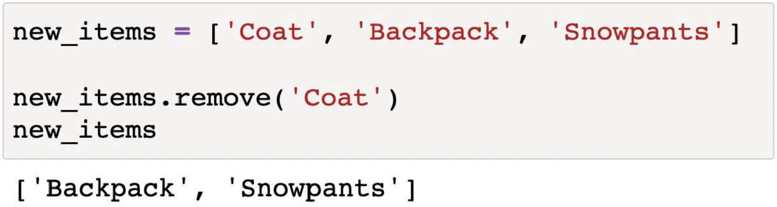
```
new_items = ['Coat', 'Backpack', 'Snowpants']

del new_items[1:3]

new_items
```

```
['Coat']
```

*The second (index of 1) and third (index of 2) elements were deleted from the list*

- **del list_name(*slice*)**

2. The **.remove()** method deletes the first occurrence of the specified value from the list



```
new_items = ['Coat', 'Backpack', 'Snowpants']

new_items.remove('Coat')
new_items
```

```
['Backpack', 'Snowpants']
```

*'Coat' was removed from the list*

- **.remove(*value*)**

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