Lists

List

Lists are used to store multiple items in a single variable.

Lists are one of 4 built-in data types in Python used to store collections of data, the other 3 are Tuple, Set, and Dictionary, all with different qualities and usage.

Lists are created using square brackets:

Example

Create a List:

```
thislist = ["apple","cherry"]
print(thislist)
```

```
['apple', 'banana', 'cherry']
```

List Items

List items are ordered, changeable, and allow duplicate values.

List items are indexed, the first item has index [0], the second item has index [1] etc.

Ordered

When we say that lists are ordered, it means that the items have a defined order, and that order will not change.

If you add new items to a list, the new items will be placed at the end of the list.

Changeable

The list is changeable, meaning that we can change, add, and remove items in a list after it has been created.

Allow Duplicates

Since lists are indexed, lists can have items with the same value:

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

print(thislist)
```

```
['apple', 'apple', 'cherry']
```

List Length

To determine how many items a list has, use the len ( ) function:

Example

Print the number of items in the list:

```
thislist = ["apple", "banana"]
print(len(thislist))
```

```
3
```

List Items - Data Types

List items can be of any data type:

Example

String, int and Boolean data types:

```
list1 = ["apple", "banana", "cherry"]
list2 = [1, 5, 7, 9, 3]
list3 = [True, False, False]

print(list1)
print(list2)
print(list3)
```

```
['apple', 'banana', 'cherry']
[1, 5, 7, 9, 3]
[True, False, False]
```

A list can contain different data types:

```
list1 = ["abc", 34, True, 40, "male"]

print(list1)
```

```
['abc', 34, True, 40, 'male']
```

Append Items

To add an item to the end of the list, use the append() method:

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

thislist.append("orange")

print(thislist)
```

```
['apple', 'cherry', 'orange']
```

Insert Items

To insert a list item at a specified index, use the insert() method.

```
thislist = ["apple", "banana", "cherry"]
thislist.insert(1, "orange")
print(thislist)
```

```
['apple', 'orange', 'banana', 'cherry']
```

Remove Specified Item

The remove() method removes the specified item.

```
thislist = ["apple", "banana", "cherry"]
thislist.remove("banana")
print(thislist)
```

```
['apple', 'cherry']
```

Remove Specified Index

The `pop()` method removes the specified index.

```
thislist = ["apple", "banana", "cherry"]
thislist.pop(1)
print(thislist)
```

```
['apple', 'cherry']
```