

Lists, Vectors, Arrays

_____ or _____ hold multiple values of the same type. _____ hold multiple values, possibly of different types.

Elements are stored in order, and elements can be referenced by their _____. The first element has _____ 0 or 1 depending on the language. The _____ of a list, vector, or array is the number of elements in it. An empty list has a _____ of 0.

You can _____ an item to the beginning of a list or vector or _____ an item to the end.

Sometimes, lists can be _____ inside other lists.

In R and Python, you can take a slice of a list (or R vector) using the list indices:

```
my_list[a:b]
```

Example:

```
my_list[3:6]
```

In Python, **a** is the index of the _____ value, **b** is the index of the _____ value EXCLUSIVE (meaning it's not included).

In R, the first number is the index of the _____ value, and the second number is the index of the _____ value INCLUSIVE.

Assigning Values

To change the value of an element in a list, assign a new value to it:

```
my_list = [7,6,5,4]
my_list[2] = 3
my_list
```

`my_list` now contains _____.

If instead you assign a new value as:

```
my_list = [7,6,5,4]
my_list = [1,2,3]
my_list
```

`my_list` now contains _____.