

C: Lists

Key properties of lists:

- Sequence of items
- Enclosed in square brackets
- Indexed (subscripted) by integers **starting at 0**
- Iterable (can ask for the elements one at a time)

Example:

```
my_list = ["alpha", "beta", "gamma"]
```

```
my_list[0] ➡ "alpha"
```

```
my_list[1] ➡ "beta"
```

```
my_list[2] ➡ "gamma"
```

Lists can be altered (formally, they are "mutable"):

Changing one element:

```
my_list[1] = "BETA"
```

```
my_list ➡ ["alpha", "BETA", "gamma"]
```

Adding an element at the end:

```
my_list.append("Delta")
```

```
my_list ➡ ["alpha", "BETA", "gamma", "Delta"]
```

Elements can be heterogeneous:

```
other_list = ["pi", 3.14159]
```

First element: str

Second element: float

Result:

```
other_list[0] ➡ "pi"
```

```
other_list[1] ➡ 3.14159
```

Elements can be lists or other data structures:

```
meta_list = [ ["a", "b"], ["c", "d"] ]
```

```
meta_list[0] ➡ ["a", "b"]
```

```
meta_list[1] ➡ ["c", "d"]
```

```
meta_list[0][1] ➡ "b"
```

Detailed example: [demo.py](#) in g03