Lists

**General Info:**

Lists are similar to dynamic arrays. They are mutable (you can change their contents). Order is preserved, and duplicate entries are allowed.

**List Comprehensions:**

Create and initialize a list in a for-loop-like syntax. Useful for applying a function to every value in a list.  
These can use a conditional statement to only select certain values and can be nested as well.



**Multi-dimensional lists:**

Using list comprehensions to initialize multi-dimensional lists:



Iterating over the multi-dimensional list:



**Types of copy (applies to all containers, not just lists):**

Copy by reference – copies only the pointer to the list.

Shallow copy – creates a new list and copies the values in the list. If the values themselves are lists, they will still be copied by reference.

Deep copy – creates an entirely new list and recursively deep copies all values in the list too (no references to the original list).

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