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Arrays vs List

Python lists and arrays are both used to store multiple items in a single variable, but they have some key differences.

A Python list is a built-in data type that can store multiple items of any data type, including other lists. Lists are defined using square brackets and items are separated by commas. Lists are very flexible and can be modified easily, which makes them useful for a wide range of tasks. They are also easy to iterate over, allowing for efficient traversal of the elements. Lists are also dynamic, meaning that the size of a list can be changed during runtime, and items can be added or removed as needed. Lists can be used for storing any kind of data, from simple numbers to complex objects.

On the other hand, an array is a separate data type that is not built-in to Python, but can be imported from the "array" module. Arrays are similar to lists in that they can store multiple items, but they are limited to only storing items of the same data type. This makes arrays more efficient in terms of memory usage and they can be useful for numerical operations. The array module provides a more efficient representation of arrays of numeric values, which can be used for mathematical computations. Arrays are also implemented in C, which makes them faster than lists.

In summary, lists are more flexible and can store items of different data types, while arrays are more efficient and can only store items of the same data type.

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