Introducing Arrays

C++ has a built-in array type, inherited from the C programming language. The array builds upon the pointer concepts you covered in the last few lessons. Arrays (unlike the `vector` type) are directly supported by your hardware.

Arrays are similar to the `vector` library type, except that they are much simpler, and have many fewer features:

- Arrays are **allocated with a fixed size** when created, which cannot change.
- The array size **is not stored along with the array** data elements.
- Arrays have **no built-in functions**, such as support for **inserting** or **deleting**.
- C++ performs **no bounds-checking** on arrays.
- Array elements may be allocated on the stack or static area so they are **more efficient** than `vector`, whose elements are always allocated on the heap, even if the `vector` itself is on the stack.

Arrays are the **low-level plumbing from which the more powerful collection classes are built**. To understand the implementation of those classes, you need to have some familiarity with the mechanics of arrays.