

Binding to Names and Storage Addresses

Variables: The moment you declare a variable, the identifier is bound to a memory location where its value will be stored.

Pointers: When using pointers, the identifier points to the memory address of another variable.

Lifetime

The lifetime of an object ends when:

- if it is of a non-class type, the object is destroyed
- if it is of a class type, the [destructor](#) call starts
- the storage which the object occupies is released, or is [reused](#) by an object that is not nested within it.

Local Variables: These variables are created when a function is called and destroyed when it exits.

Static Variables: Have a lifetime for the entire duration of the program, but their scope can be limited to the block in which they're declared.

Dynamic Variables: Allocated using new and persist until explicitly deallocated with delete
<https://en.cppreference.com/w/cpp/language/lifetime>

Scope

1. Local Variables: Anything between “{“ and “}” are local variables
2. Global Variables: Can be accessed throughout any part of the program
<https://www.geeksforgeeks.org/scope-of-variables-in-c/>