C++ Programming

Step-by-Step

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30. C++ REFERENCES

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Abstract

A C++ *reference* is an alternative name for an object. All operations applied to a reference act on the object to which the reference refers. The address of a reference is the address of the alternative object.

A reference type is defined by placing the reference modifier & after the type specifier. All references must be initialized except function parameters when they are defined. Once defined, a reference cannot be reassigned because it is an alternative to its target. If a function needs to modify the actual value of an argument or needs to return more than one value, the argument must be passed by reference. Passing arguments by reference can be done using either references or pointers. Unlike other languages, C++ does not force to use pointers if someone wants to pass arguments by reference.

30.1 Introduction

C++ references allow creating another name for a variable what this means is that when you declare a reference and assign it a variable, it will allow to treat the reference exactly as though it were the original variable for the purpose of accessing and modifying the value of the original variable—even if the reference is located within a different scope. This is quite different from how C++ normally works, where you have arguments to a function copied into new variables.