课程：Object-oriented Programming

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## Reading Notes of Chapter 6, *Thinking in C++*

It has always been a problem for C programmers to forget to release memory space after a variable has been used, and to more safely solve this problem while encrypting types and classes as a feature of this object-oriented programming language, C++ offers constructors and destructors that can be programmed and employed independently, extrinsically.

By offering this mechanism, the C++ language allows variables to be defined anywhere before it has been actually used; this is also a safety issue. In traditional C programs, variables has to be defined in the beginning of a given file, which makes it quite unsafe and a possibility of data leakage between the variable being allocated memory space and being actually used.

Of course, by setting up customizable constructor functions, the definition of a variable can become more formal and help wipe out mistakes. In the customized constructor function, programmers can control initial values of variables more feasibly, more easily.

Constructors and destructors do not return values, which ensures safety since the compiler would not release a return value into the memory field, making data less prone to leaking and attack attempts – at least for programmers and hackers.