

Glossary

- has been applied to it (and no new object has subsequently been reallocated at that same address). [Deleted Functions](#) (59), [Generalized PODs '11](#) (483), [Rvalue References](#) (757), [noexcept Specifier](#) (1086)
- deleted function** – one that is either declared explicitly to be deleted or else is implicitly deleted (e.g., an aggregate that comprises a subobject whose corresponding special member function is unavailable). [Defaulted Functions](#) (33), [Generalized PODs '11](#) (523)
- dependent type** – one referenced in a template whose identity cannot be determined without knowing one or more of the arguments to the template itself. [Inheriting Ctors](#) (538), [Generic Lambdas](#) (981)
- design pattern** – an abstract unit of commonly recurring design (e.g., *Singleton*, *Adapter*, *Iterator*, *Visitor*) that comprises a fairly small number of entities having distinct roles and identified interrelationships, is more general than can be expressed directly (e.g., as a **template**) in reusable code, and is often language agnostic (e.g., C++, D, Java, Python, Smalltalk). Note that [CRTP](#), despite having a **P** (for pattern), is so formulaic and nonportable that it might be considered a C++ *idiom* instead. See [gamma95](#): Chapter 3, section “Singleton,” pp. 127–138; Chapter 4, section “Adapter,” pp. 139–150; and Chapter 5, section “Iterator,” pp. 257–271, and section “Visitor,” pp. 331–349. [Opaque enums](#) (669)
- destructor** – a special member function of a class (e.g., **S**) declared using the same name as the class but preceded by a tilde character (e.g., **~S**) that is invoked implicitly when the lifetime of an object of that type ends on leaving the block in which the object was defined (**automatic storage duration**), when the main function returns (**static storage duration**), when the thread for which it is defined ends (**thread storage duration**), when the **delete** operator is applied (**dynamic storage duration**), or when the destructor is invoked explicitly within the program. Note that a class’s destructor automatically invokes the destructors for each of its **nonstatic data members** and base-class objects. [Generalized PODs '11](#) (450), [Rvalue References](#) (752), [noexcept Specifier](#) (1086)
- detection idiom** – a pattern used with templates to detect whether certain expressions are valid or ill formed for a particular sequence of **template arguments**, frequently used for **compile-time dispatch**; see [otsuka20](#).
- devirtualize** – replace, as a pure optimization of a given virtual-function call, the *indirect* invocation of that function, through the object’s **virtual-function table**, with a *direct* one, assuming that the tool chain can somehow determine the **dynamic type** of the object at either compile or link time; in such cases, the viable body of a virtual function can be inlined. [final](#) (1011)
- DFP** – short for decimal floating point.
- diffusion** – see [memory diffusion](#). [alignas](#) (183)
- dimensional unit type** – a type used for representing distinct kinds and dimensions of physical units, often providing protection against mixing units where such mixing would be erroneous. [User-Defined Literals](#) (864)
- direct braced initialized** – implies, for a given object, that it has been initialized using a **braced-initializer list** in a **direct initialization** context. [Generalized PODs '11](#) (455)
- direct initialization** – initialization of an object using a **parenthesized initializer**, a **braced-initializer list** that is not preceded by **=**, a **static_cast**, or a type conversion using functional notation. [explicit Operators](#) (62), [auto Variables](#) (211), [Braced Init](#) (215), [Default Member Init](#) (318)