

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)