

Index

, —see comma operator
! —see logical negation operator
!= —see inequality operator
operator 16–5
operator 16–6
% —see modulus operator
%= operator 5–22
&
—see address-of operator
—see bitwise AND operator
reference declarator 8–5
&& —see logical AND operator
&= operator 5–22
(
—see function call operator
function declarator 8–8
*
—see indirection operator
—see multiplication operator
pointer declarator 8–4
*= operator 5–22
+
—see addition operator
—see unary plus operator
++ —see increment operator
+= operator 5–13, 22
-
—see subtraction operator
—see unary minus operator
-- —see decrement operator
-= operator 5–22
-> —see class member access operator
->* —see pointer to member operator
. —see class member access operator
.* —see pointer to member operator
... —see ellipsis
/ —see division operator
/* */ comment 2–3
// comment 2–3
/= operator 5–22
:
field declaration 9–11
label specifier 6–1
::
—see scope resolution operator
scope resolution operator 3–5
::*, pointer to member declarator 8–6
<

—see less than operator
template and 14–2
<< —see left shift operator
<<= operator 5–22
<= —see less than or equal to operator
= —see assignment operator
== —see equality operator
> —see greater than operator
>= —see greater than or equal operator
>> —see right shift operator
>>= operator 5–22
?: —see conditional expression operator
[]
—see subscripting operator
array declarator 8–7
\ —see backslash
^ —see bitwise exclusive OR operator
^= operator 5–22
_
underscore character 2–4
underscore in identifier 2–4
{ }
block statement 6–1
class declaration 9–1
class definition 9–1
enum declaration 7–12
initializer list 8–16
| —see bitwise inclusive OR operator
|= operator 5–22
|| —see logical OR operator
~
—see destructor
—see one's complement operator
0
—see also zero, null
null character 2–9
string terminator 2–9

A

abort 3–9, 6–5, 17–16, 18–14, 19
abs 26–18, 30/31
abstract
class 10–9
class, constructor and 10–10
class, pointer to 10–9
abstract-declarator 8–2
access

- adjusting base class member access 11-3
- ambiguity, member 10-3
- and *friend*, class 11-5
- and *friend* function 11-4
- base class 11-2
- base class member 10-1
- class member 5-6
- control 11-1
- control, anonymous union 9-11
- control default 11-1
- control, member function and 12-1
- control, overloading resolution and 10-4
- declaration 11-3
- example, member name 11-4
- member name 11-1
- overloading and 13-4
- protected member 11-6
- rules, template 14-21
- specifier 11-2
- specifier and *friend* 11-5
- specifier and object layout 11-2
- struct default member 9-1
- union default member 9-1
- virtual function 11-7
- access-specifier* 10-1
- accumulate* 26-28
- acos* 26-18, 31
 - complex 26-7
- addition operator 5-18
- additive operator 5-18
- additive-expression* 5-18
- address
 - of bit-field 9-11
 - of bit-field restriction 9-11
 - of constructor 12-2
 - of cv-qualified name 5-12
 - of member function, unspecified 17-20
 - of overloaded function 5-13, 13-17
- address-of operator 5-12
- adjacent_find* 25-10
- adjusting base class member access 11-3
- adjustment
 - array parameter 8-9
 - function parameter 8-9
- advance* 24-12
- aggregate 8-16
- alert 2-7
- `<algorithm>` 25-1
- alias 7-18
- alignment
 - of bit-field 9-11
 - of bit-field, implementation defined 9-11
 - requirement, implementation-defined 3-14
- allocate* 20-14
- allocation
 - function 3-10, 5-15, 12-8
 - implementation defined 9-5
 - implementation defined bit-field 9-11
 - implementation-defined 11-2
 - new, storage 5-14
- Allocator Requirements 20-1
- allocator 20-11
- allowing an exception 15-5
- alternate definition 17-18
- ambiguity
 - base class member 10-3
 - class conversion 10-6
 - declaration type 7-2
 - declaration versus cast 8-3
 - declaration versus expression 6-6
 - detection, overloaded function 13-4
 - function declaration 8-15
 - member access 10-3
 - parentheses and 5-14
 - resolution, scoping 10-4
- Amendment 1 17-18
- anachronism C-11
- C function definition C-11
- assignment to *this* C-12
- cast of pointer to member C-12
- free store and constructor C-12
- free store and destructor C-12
- memory management C-12
- nonnested class C-12
- old style base class initializer C-12
- old style function definition C-11
- overload* keyword C-11
- pointer to member conversion C-12
- scope of nested class C-12
- this* and constructor C-12
- this* and destructor C-12
- AND
 - operator, bitwise 5-21
 - operator, logical 5-21
 - operator, side effects and logical 5-21
- anonymous
 - union 9-11
 - union access control 9-11
 - union at namespace scope 9-11
 - union, extension to C C-1
 - union, global 9-11
 - union restriction 9-11
- any,bitset* 23-14
- append, basic_string* 21-13
- apply, valarray* 26-15
- arg, complex* 26-6
- argc* 3-8
- argument 1-2, 17-19/20, 19-4
 - and name hiding, default 8-12
 - and virtual function, default 8-12
 - binding of default 8-11
 - conversion 5-5, 8-9
 - declaration, default 8-10
 - deduction, template 14-23
 - evaluation of default 8-11/12
 - evaluation, order of 5-5
 - evaluation, unspecified order of 5-5
 - example of default 8-10/11
 - list, empty 8-8
 - list, variable 8-8
 - matching —see *overload resolution*
 - overloaded operator and default 13-17
 - passing 5-5
 - passing, reference and 8-19
 - reference 5-5
 - scope of default 8-12
 - specification, template 14-22
 - substitution 16-5
 - template 14-19
 - to constructor, unspecified 5-16
 - type checking 5-5
 - type checking of default 8-11
 - type conversion 12-3
 - type, unknown 8-8
- arguments, implementation-defined order of evaluation of
 - function 8-12
- argv[]* 3-8
- arithmetic
 - conversions, usual 5-2
 - exception 5-1
 - exception, undefined 5-1
 - extension to C single precision C-1

- pointer 5–18
- type 3–16
- unsigned 3–16
- array
 - bound 8–7
 - const 3–17
 - declaration 8–7
 - declarator [] 8–7
 - declarator, multidimensional 8–7
 - delete 5–16
 - example 8–7
 - initialization 8–16
 - member 9–4
 - multidimensional 8–8
 - new 5–15
 - of class objects and constructor 12–10
 - of class objects and new 5–15
 - of class objects initialization 8–18, 12–10
 - order of execution, constructor and 12–10
 - order of execution, destructor and 12–6
 - overloading and pointer versus 13–2
 - parameter adjustment 8–9
 - pointer conversion 4–1
 - size, default 8–7
 - sizeof 5–13
 - storage of 8–8
 - type 3–16, 8–9
- array-to-pointer conversion 4–1
- arrow operator —see class member access operator
- asin 26–18, 31
- complex 26–7
- asm
 - declaration 7–24
 - implementation-defined 7–24
- assembler 7–24
- <assert.h> 17–16/D–1
- assign
 - basic_string 21–13
 - deque 23–17
 - list 23–20
 - string 21–26
 - string_char_traits 21–4
 - vector 23–26
 - wstring 21–27
- assignment
 - and initialization, overloaded 12–10
 - and lvalue 5–22
 - base class object 5–22
 - conversion by 5–22
 - derived class object 5–22
 - expression 5–22
 - extension to C memberwise C–2
 - operator 5–22, 17–7
 - operator, copy 12–18
 - operator, overloaded 13–19
 - operator restriction, copy 12–19
 - reference 8–19
 - to class object 5–22
 - to reference 5–22
 - to this anachronism C–12
- assignment-expression* 5–22
- assignment-operator* 5–22
- at, basic_string 21–12
- atan 26–18, 31
- complex 26–7
- atan2 26–18, 31
- complex 26–7
- atexit 3–9, 6–6, 17–16, 18–10
- auto
 - destruction of 6–5/6
 - initialization 6–6

- object initialization 8–14
- restriction 7–3
- specifier 7–3
- storage duration 3–10
- automatic initialization 6–6
- auto_ptr 20–16
- auto_ptr 20–16
- auto_ptr 20–16
- get 20–17
- operator* 20–17
- operator-> 20–17
- operator= 20–17
- release 20–17
- reset 20–17
- ~auto_ptr 20–17
- ~auto_ptr, auto_ptr 20–17

B

- back_inserter 24–19
- back_insert_iterator 24–18
- back_insert_iterator 24–18
- back_insert_iterator 24–18
- operator* 24–18
- operator++ 24–18
- operator= 24–18
- backslash character 2–7
- backspace 2–7
- bad, basic_ios 27–19
- bad_alloc 5–16, 18–11, 14
- bad_alloc 18–14
- bad_alloc 18–14
- operator= 18–14
- what 18–14
- bad_alloc::what, implementation-defined 18–14
- bad_cast 5–8, 18–16
- bad_cast 18–16
- bad_cast 18–16
- operator= 18–16
- what 18–16
- bad_cast::what, implementation-defined 18–16
- bad_exception 18–18
- bad_exception 18–18
- bad_exception 18–18
- operator= 18–18
- what 18–18
- bad_exception::what, implementation-defined 18–18
- bad_typeid 5–9, 18–16
- bad_typeid 18–17
- bad_typeid 18–17
- operator= 18–17
- what 18–17
- bad_typeid::what, implementation-defined 18–17
- base
 - class 17–18, 21
 - class 10–1/2
 - class access 11–2
 - class cast 5–10
 - class constructor order of execution 12–2
 - class conversion 4–4
 - class destructor order of execution 12–6
 - class, direct 10–1
 - class, indirect 10–1
 - class initialization 12–11
 - class initialization, order of 12–12
 - class initializer 8–13
 - class initializer anachronism, old style C–12
 - class member access 10–1
 - class member access, adjusting 11–3
 - class member ambiguity 10–3

- class object, assignment 5–22
- class, private 11–2
- class, public 11–2
- class virtual—see virtual base class
- of integer literal 2–6
- base-specifier* 10–1
- base-specifier-list* 10–1
- basic execution character set 1–3
- basic_filebuf* 27–59
 - basic_filebuf* 27–60
 - basic_filebuf* 27–60
 - close 27–61
 - imbue 27–63
 - is_open 27–60
 - open 27–60
 - overflow 27–62
 - pbackfail 27–61
 - seekoff 27–62
 - seekpos 27–63
 - setbuf 27–62
 - showmanyc 27–61
 - sync 27–63
 - underflow 27–61
 - ~*basic_filebuf* 27–60
- ~*basic_filebuf*, *basic_filebuf* 27–60
- basic_filebuf<char>* 27–58
- basic_filebuf<wchar_t>* 27–58
- basic_ifstream* 27–63
 - basic_ifstream* 27–64
 - basic_ifstream* 27–64
 - close 27–64
 - is_open 27–64
 - open 27–64
 - rdbuf 27–64
- basic_ifstream<char>* 27–58
- basic_ifstream<wchar_t>* 27–58
- basic_ios* 27–17
 - bad 27–19
 - basic_ios* 27–17
 - basic_ios* 27–17
 - clear 27–19
 - copyfmt 27–18
 - eof 27–19
 - exceptions 27–19
 - fail 27–19
 - fill 27–15
 - good 27–19
 - init 27–33, 43
 - operator bool 27–18
 - operator! 27–18
 - rdbuf 27–18
 - rdstate 27–18
 - setstate 27–19
 - tie 27–18
- basic_ios<char>* 27–4
- basic_ios<char>* 27–6
- basic_ios::failure* argument, implementation-defined 27–19
- basic_ios<wchar_t>* 27–4
- basic_ios<wchar_t>* 27–6
- basic_istream* 27–31
 - basic_istream* 27–33
 - basic_istream* 27–33
 - gcount 27–39
 - get 27–39
 - getline 27–40
 - ignore 27–40
 - ipfx 27–33
 - isfx 27–34
 - operator>> 27–36
 - peek 27–41
 - putback 27–41
 - read 27–41
 - readsome 27–41
 - seekg 27–42
 - sync 27–41
 - tellg 27–42
 - unget 27–41
- basic_istream<char>* 27–4
- basic_istream<char>* 27–31
- basic_istream<wchar_t>* 27–4
- basic_istream<wchar_t>* 27–31
- basic_istreamstream* 27–56
 - basic_istreamstream* 27–56
 - basic_istreamstream* 27–56
- rdbuf 27–57
 - str 27–57
- basic_istreamstream<char>* 27–51
- basic_istreamstream<wchar_t>* 27–51
- basic_ofstream* 27–64
 - basic_ofstream* 27–65
 - basic_ofstream* 27–65
 - close 27–65
 - is_open 27–65
 - open 27–65
 - rdbuf 27–65
- basic_ofstream<char>* 27–58
- basic_ofstream<wchar_t>* 27–58
- basic_ostream*
 - basic_ostream* 27–43
 - basic_ostream* 27–43
 - flush 27–49
 - operator<< 27–46
 - opfx 27–44
 - osfx 27–44
 - put 27–49
 - seekp 27–44
 - tellp 27–44
 - write 27–49
 - ~*basic_ostream* 27–43
- ~*basic_ostream*, *basic_ostream* 27–43
- basic_ostream<char>* 27–4
- basic_ostream<char>* 27–31
- basic_ostream<wchar_t>* 27–4
- basic_ostream<wchar_t>* 27–31
- basic_ostringstream* 27–57
 - basic_ostringstream* 27–57
 - basic_ostringstream* 27–57
 - rdbuf 27–58
 - str 27–58
- basic_ostringstream<char>* 27–51
- basic_ostringstream<wchar_t>* 27–51
- basic_streambuf* 27–23
 - basic_streambuf* 27–24
 - basic_streambuf* 27–24
 - eback 27–26
 - egptr 27–26
 - epptr 27–27
 - gbump 27–26
 - getloc 27–25
 - gptr 27–26
 - imbue 27–27
 - in_avail 27–25
 - overflow 27–30
 - pbackfail 27–29
 - pbase 27–27
 - pbump 27–27
 - pptr 27–27
 - pubimbue 27–25
 - pubseekoff 27–25
 - pubseekpos 27–25
 - pubsetbuf 27–25

pubsync 27-25
 sbumpc 27-25
 seekoff 27-27
 seekpos 27-28
 setbuf 27-27
 setg 27-27
 setp 27-27
 sgetc 27-26
 sgetn 27-26
 showmanyc 27-28, 61
 snextc 27-25
 sputbackc 27-26
 sputc 27-26
 sputn 27-26
 sungetc 27-26
 sync 27-28
 uflow 27-29
 underflow 27-28
 xsgetn 27-28
 xspn 27-30
 basic_streambuf<char> 27-22
 basic_streambuf<wchar_t> 27-22
 basic_string 21-5, 22, 27-51
 append 21-13
 assign 21-13
 at 21-12
 basic_string 21-8
 basic_string 21-8
 begin 21-10
 c_str 21-17
 capacity 21-11
 compare 21-21
 copy 21-17
 data 21-17
 empty 21-12
 end 21-10
 find 21-18
 find_first_not_of 21-20
 find_first_of 21-19
 find_last_not_of 21-20
 find_last_of 21-19
 getline 21-25
 insert 21-14
 max_size 21-11
 operator!= 21-23
 operator+ 21-22
 operator+= 21-12
 operator< 21-23
 operator<< 21-25
 operator<= 21-24
 operator= 21-10
 operator== 21-22
 operator> 21-24
 operator>= 21-24
 operator>> 21-25
 operator[] 21-12
 rbegin 21-10
 remove 21-15
 rend 21-10
 replace 21-15
 reserve 21-11
 resize 21-11
 rfind 21-18
 size 21-11
 substr 21-21
 swap 21-17
 basic_stringbuf 27-52
 basic_stringbuf 27-53
 basic_stringbuf 27-53
 overflow 27-54
 pbackfail 27-54
 seekoff 27-54
 seekpos 27-55
 str 27-53
 underflow 27-54
 basic_stringbuf<char> 27-51
 basic_stringbuf<wchar_t> 27-51
 before, type_info 18-15
 begin, basic_string 21-10
 behavior
 default 17-1, 4
 implementation-defined 1-2
 locale-specific 1-2
 reentrancy, implementation-defined 17-20
 required 17-2, 4
 undefined 1-2
 unspecified 1-2
 Ben 13-3
 bidirectional_iterator 24-11
 distance_type 24-12
 iterator_category 24-11
 value_type 24-12
 bidirectional_iterator_tag 24-11
 binary
 operator, interpretation of 13-19
 operator, overloaded 13-19
 binary_function 20-5
 binary_negate 20-8
 binary_search 25-22
 bind1st 20-9
 bind2nd 20-9
 binder1st 20-8
 binder2nd 20-9
 binding
 —see virtual function, dynamic
 of default argument 8-11
 reference 8-19
 bit-field 9-11
 address of 9-11
 alignment of 9-11
 allocation, implementation defined 9-11
 declaration 9-11
 implementation defined alignment of 9-11
 implementation-defined sign of 9-11
 layout 9-11
 restriction 9-11
 restriction, address of 9-11
 restriction, pointer to 9-11
 type of 9-11
 unnamed 9-11
 zero width of 9-11
 bit-fields, Boolean 3-16
 bitmask type 17-5
 <bitset> 23-9
 bitset 23-10
 any 23-14
 bitset 23-11
 bitset 23-11
 count 23-14
 flip 23-13
 none 23-14
 operator!= 23-14
 operator& 23-15
 operator&= 23-12
 operator<< 23-14/15
 operator<<= 23-12
 operator== 23-14
 operator>> 23-14/15
 operator>= 23-13
 operator^ 23-15
 operator^= 23-12
 operator| 23-15

operator |= 23-12
operator~ 23-13
reset 23-13
set 23-13
size 23-14
test 23-14
to_string 23-14
to_ulong 23-13
bitwise
AND operator 5-21
exclusive OR operator 5-21
inclusive OR operator 5-21
operator 5-21
block
initialization in 6-6
scope —see local scope
statement { } 6-1
structure 6-6
body, function 8-13
bool promotion to int 4-2
bool
increment 5-7, 13
type-specifier 7-9
boolalpha 27-19
Boolean
bit-fields 3-16
conversion 4-4
literal 2-9
type 3-15
type 3-16
boolean-literal 2-9
bound array 8-7
bound, of array 8-7
bound pointer to member function, undefined C-12
break statement 6-5
built-in type —see fundamental type
byte 5-13
string, null-terminated 17-6

C

C
anonymous union, extension to C-1
class, extension to C-1
const, extension to C-1
dangerous extension to C-11
declaration statement, extension to C-1
delete, extension to C-1
destructor, extension to C-2
expression evaluation, difference from C-1
extension to C-1/2
function definition anachronism C-11
header 17-16/18, 17-20/D-1
headers, ISO 2-5
implementation-defined extension to C-11
inline function, extension to C-1
library, Standard 17-1, 6, 17-15/C-13, C-15
linkage to 7-24
memberwise assignment, extension to C-2
memberwise initialization, extension to C-2
multiple inheritance, extension to C-2
new, extension to C-1
overloading delete, extension to C-2
overloading, extension to C-1
overloading new, extension to C-2
pointer to member, extension to C-2
protected, extension to C-2
reference type, extension to C-1
single precision arithmetic, extension to C-1
summary, compatibility with C-1

summary, compatibility with ISO C-2
type checking, extension to C-1
user-defined type, extension to C-1
void* pointer type extension to C-1
volatile, extension to C-2
call
—see also function call, member function call, overloaded
function call, virtual function call
by reference 5-5
by value 5-5
operator function 13-18
calloc 20-18/C-16
capacity
basic_string 21-11
vector 23-27
carriage return 2-7
case label 6-1, 3
<cassert> 17-16, 19-5
cast
ambiguity, declaration versus 8-3
base class 5-10
const 5-11
derived class 5-10
dynamic 5-7, 18-16
integer to pointer 5-10
lvalue 5-9/10
of pointer to member anachronism C-12
operator 5-12, 17, 8-2
pointer to function 5-10
pointer to integer 5-10
pointer to member 5-10/11
reference 5-9, 11
reinterpret 5-10
reinterpret_cast, lvalue 5-10
reinterpret_cast, reference 5-11
static 5-9
static_cast, lvalue 5-9
static_cast, reference 5-9
to incomplete class 5-10
undefined pointer to function 5-10
cast-expression 5-17
casting 5-6, 17
catch 15-1
category 17-1
category, locale 22-4
c-char 2-6
c-char-sequence 2-6
<cctype> 21-28
ceil 26-31
cerr 27-5
<cerrno> 17-17, 19-5
<cfloat> 18-9
C++
Standard library 17-1, 18/19, 21
header D-1
headers 17-15
change
to const object, undefined 7-8
to string literal, undefined 2-8
char
implementation-defined sign of 3-15
literal, implementation-defined value of 2-7
type 3-15
type, signed 3-15
type specifier 7-9
type, unsigned 3-15
character
array initialization 8-18
decimal-point 17-6
literal 2-7
literal, type of 2-7

- multibyte 1-2
- set, basic execution 1-3
- signed 3-15
- string 2-8
- type 3-15
- underscore 17-17
- character-literal* 2-6
- char_in
 - string 21-26
 - string_char_traits 21-4
 - wstring 21-27
- char_out
 - string 21-26
 - string_char_traits 21-4
 - wstring 21-28
- CHAR_T 27-2
- checking
 - point of error 14-4
 - syntax 14-4
- cin 27-4
- <ciso646> C-15
- class 3-16, 9-1
 - abstract 10-9
 - access and friend 11-5
 - anachronism, nonnested C-12
 - and type 9-1
 - base 17-18, 21
 - base —see base class
 - cast to incomplete 5-10
 - constructor and abstract 10-10
 - conversion 12-3
 - conversion ambiguity 10-6
 - conversion, base 4-4
 - declaration, forward 9-2, 10-1
 - declaration { } 9-1
 - definition 9-1, 4
 - definition 3-3
 - definition, empty 9-1
 - definition example 9-4
 - definition name hiding 9-2
 - definition, scope of 9-2
 - definition { } 9-1
 - derived 17-21
 - derived —see derived class
 - extension to C C-1
 - generated 14-9
 - gslice 26-21
 - linkage of 3-7
 - linkage specification 7-24
 - local —see local class
 - member —see also member
 - member access 5-6
 - member access operator 5-6
 - member declaration 9-3
 - member function 9-6
 - member initialization 8-15
 - member semantics 5-6
 - member, static 3-10
 - member storage duration 3-11
 - member syntax 5-6
 - name 8-2
 - name as type definition 9-1
 - name declaration 3-2
 - name, elaborated 7-10, 9-2/3
 - name, point of declaration 9-3
 - name, scope of 9-2
 - name, typedef 7-6/7, 9-3
 - nested —see nested class
 - object, assignment to 5-22
 - object, const 3-17
 - object copy 12-17
 - object copy —see also copy constructor
 - object initialization 8-16, 12-9/10
 - object initialization —see also constructor
 - object layout 9-5, 10-2
 - object, member 9-4
 - object, operations on 9-1
 - object, sizeof 5-13
 - objects and constructor, array of 12-10
 - objects and new, array of 5-15
 - objects initialization, array of 8-18, 12-10
 - pointer to abstract 10-9
 - polymorphic 10-6
 - scope 3-4
 - scope of enumerator 7-13
 - scope of friend 11-5
 - sizeof, empty 9-1
 - specialized 14-9, 16
 - template 14-2, 23-11
 - type restriction, member of 12-12
 - unnamed 7-7
- class
 - type specifier 7-10
 - versus struct 9-1
 - versus union 9-1
- classic, locale 22-9
- class-key* 7-10, 9-1
- class-name* 9-1
- class-specifier* 9-1
- clear, basic_ios 27-19
- <climits> 18-9, 23-12/D-5
- <locale> 17-6, 22-38/C-15
- clog 27-5
- close
 - basic_filebuf 27-61
 - basic_ifstream 27-64
 - basic_ofstream 27-65
 - messages 22-34
- <cmath> 26-30
- codecvt 22-16
 - convert 22-16
 - doconvert 22-16
- codecvt_byname 22-17
- collate 22-22
 - compare 22-23
 - do_compare 22-23
 - do_hash 22-23
 - do_transform 22-23
 - hash 22-23
 - transform 22-23
- collate_byname 22-24
- comma
 - operator 5-23
 - operator, side effects and 5-23
- comment 2-2
 - /* */ 2-3
 - // 2-3
- compare
 - basic_string 21-21
 - collate 22-23
 - string 21-26
 - string_char_traits 21-4, 21
 - wstring 21-28
- comparison
 - function 17-1
 - implementation defined pointer 5-20
 - pointer 5-20
 - pointer to function 5-20
 - undefined pointer 5-19/20
 - void* pointer 5-20
- compatibility
 - with C summary C-1

- with ISO C summary C-2
- compilation, separate 2-1
- compiler control line —see preprocessing directive
- complete object 1-4
- completely-defined object type 3-14
- <complex> 26-2
- complex 26-3
 - acos 26-7
 - arg 26-6
 - asin 26-7
 - atan 26-7
 - atan2 26-7
 - complex 26-4
 - complex 26-4
 - conj 26-7
 - cos 26-7
 - cosh 26-7
 - exp 26-7
 - imag 26-6
 - log 26-7
 - log10 26-7
 - norm 26-6
 - operator!= 26-6
 - operator* 26-5
 - operator*= 26-5
 - operator+ 26-5
 - operator+= 26-5
 - operator- 26-5
 - operator-= 26-5
 - operator/= 26-5
 - operator<< 26-6
 - operator== 26-6
 - operator>> 26-6
 - polar 26-7
 - pow 26-7
 - real 26-6
 - sin 26-7
 - sinh 26-7
 - sqrt 26-7
 - tan 26-7
 - tanh 26-7
- component 17-1
- compound
 - statement 6-1
 - type 3-16
- compound-statement* 6-1
- concatenation
 - string 2-8
 - undefined string literal 2-8
- condition* 6-2
- conditional
 - expression operator 5-21
 - inclusion 16-2
- conditional-expression, throw-expression in 5-22
- conditions*, rules for 6-2
- conj, complex 26-7
- consistency
 - example, linkage 7-3
 - linkage 7-3
 - linkage specification 7-24
 - type declaration 3-8
- const cast 5-11
- *const example 8-4
- const 3-17
 - array 3-17
 - class object 3-17
 - constructor and 9-9, 12-1
 - destructor and 9-9, 12-6
 - example 8-4
 - extension to C C-1
 - initialization 7-8, 8-16
 - linkage of 3-7, 7-3
 - member function 9-8
 - member initialization 12-12
 - object, undefined change to 7-8
 - operand 5-1
 - overloading and 13-2
 - reference 8-20
 - type 7-7
- constant 2-5, 3-16, 5-3
 - enumeration 7-12
 - expression 5-23
 - expression, pointer to member 5-12
 - initializer 9-4
 - null pointer 4-3/4
 - pointer declaration 8-4
 - pointer example 8-4
- constant-expression* 5-23
- constant-initializer* 9-4
- construct 20-15
- constructor 12-1
 - address of 12-2
 - anachronism, free store and C-12
 - anachronism, this and C-12
 - and abstract class 10-10
 - and array order of execution 12-10
 - and const 9-9, 12-1
 - and initialization 12-9/10
 - and initialization example 12-10
 - and member function 12-2
 - and new 5-15
 - and new, unspecified 5-16
 - and return 6-5
 - and static objects order of execution 12-11
 - and virtual function call 12-15
 - and volatile 9-9, 12-1
 - array of class objects and 12-10
 - call, explicit 12-2
 - conversion by 12-3
 - conversion by —see also user-defined conversion
 - copy 12-2, 17, 17-7
 - default —see default constructor
 - definition 8-13
 - example 12-2
 - exception handling 15-3
 - for temporary 12-3
 - inheritance of 12-1
 - non-trivial 12-1
 - order of execution, base class 12-2
 - order of execution, member 12-2
 - restriction 12-1/2
 - restriction, copy 12-18
 - type of 12-2
 - union 9-11
 - unspecified argument to 5-16
- Container Requirements 23-1
- continue
 - in for statement 6-4
 - statement 6-5
- control line —see preprocessing directive
- convention 17-4
- conversion
 - Boolean 4-4
 - ambiguity, class 10-6
 - anachronism, pointer to member C-12
 - and name hiding, user-defined 12-5
 - argument 5-5, 8-9
 - array pointer 4-1
 - array-to-pointer 4-1
 - base class 4-4
 - by assignment 5-22
 - by constructor 12-3

- class 12-3
 - explicit type —see casting
 - floating point 4-3
 - floating-integral 4-3
 - function —see also user-defined conversion
 - function-to-pointer 4-2
 - implementation defined pointer integer 5-10
 - implementation-defined floating point 4-3
 - implicit 4-1, 5-2, 12-3
 - implicit user-defined 12-5
 - inheritance of user-defined 12-5
 - integer 4-3
 - lvalue-to-rvalue 4-1
 - operator 5-2, 12-4
 - overload resolution and 13-11
 - overload resolution and pointer 13-17
 - pointer 4-3
 - pointer to function 4-2
 - pointer to member 4-4
 - pointer to member void* 4-4
 - rank 13-13
 - return type 6-5
 - reverse_bidirectional_iterator 24-14
 - reverse_iterator 24-16
 - sequence, implicit 4-1
 - signed unsigned integer 4-3
 - standard 4-1
 - to enumeration type 5-10
 - to enumeration type, static_cast, 5-10
 - to rvalue, lvalue 4-1
 - type of 12-4
 - undefined floating point 4-3
 - user-defined 4-1, 5-2, 12-3/4
 - virtual user-defined 12-5
 - conversion-function-id* 12-4
 - conversions
 - qualification 4-2
 - usual arithmetic 5-2
 - convert, codecvt 22-16
 - copy
 - assignment operator 12-18
 - assignment operator 12-17
 - assignment operator, implicitly-declared 12-19
 - assignment operator restriction 12-19
 - class object 12-17
 - constructor 12-2, 17, 17-7
 - constructor, implicitly-declared 12-17
 - constructor restriction 12-18
 - copy 25-13
 - basic_string 21-17
 - ios_traits 27-9
 - string 21-27
 - string_char_traits 21-5
 - wstring 21-28
 - copy_backward 25-13
 - copyfmt, basic_ios 27-18
 - cos 26-18, 31
 - complex 26-7
 - cosh 26-18, 31
 - complex 26-7
 - count 25-11
 - bitset 23-14
 - count_if 25-11
 - cout 27-5
 - __cplusplus 16-9
 - <csetjmp> 17-17, 18-20
 - cshift, valarray 26-15
 - <csignal> 18-20
 - <cstdarg> 8-8, 17-17, 18-19
 - <cstddef> 2-5, 5-14, 19, 18-1/C-16
 - <cstdio> 27-4/5, 35, 45, 58, 61/62, 27-66/C-15
 - <cstdlib> 3-9, 17-16, 18-9, 20, 20-17, 21-29, 25-28, 26-30, 27-51/C-15
 - c_str, basic_string 21-17
 - <cstring> 17-6, 20-18, 21-28/D-5, D-10/C-15
 - <ctime> 18-20, 20-18, 22-2/C-15
 - ctor_initializer 12-11
 - ctype 22-10
 - do_is 22-12
 - do_narrow 22-13
 - do_scan_is 22-12
 - do_scan_not 22-12
 - do_tolower 22-12
 - do_toupper 22-12
 - do_widen 22-13
 - is 22-11
 - narrow 22-12
 - scan_is 22-11
 - scan_not 22-11
 - tolower 22-12
 - toupper 22-11
 - widen 22-12
 - ctype_byname 22-13
 - ctype<char>
 - ctype<char> 22-15
 - ctype<char> 22-15
 - is 22-15
 - narrow 22-15
 - scan_is 22-15
 - scan_not 22-15
 - tolower 22-15
 - toupper 22-15
 - widen 22-15
 - ~ctype<char> 22-14
 - ~ctype<char>, ctype<char> 22-14
 - <ctype.h> D-1
 - cv-qualified name, address of 5-12
 - cv-qualifier 3-17
 - cv-qualifier 8-2
 - <cwchar> 17-6, 18, 21-29, 27-66/C-15
 - <cwctype> 17-18, 21-28
- ## D
- DAG
 - multiple inheritance 10-3
 - nonvirtual base class 10-3
 - virtual base class 10-3
 - dangerous extension to C C-11
 - data
 - member —see member
 - member, static 9-9
 - data, basic_string 21-17
 - date_order, time_get 22-25
 - deallocate 20-15
 - deallocation
 - see delete
 - function 3-11, 5-17, 12-8
 - dec 27-21, 36, 47
 - decimal literal 2-6
 - decimal-literal 2-5
 - decimal-point character 17-6
 - decimal_point, numpunct 22-21
 - declaration 3-1/2, 7-1
 - :, field 9-11
 - access 11-3
 - ambiguity, function 8-15
 - array 8-7
 - as definition 7-2
 - asm 7-24
 - bit-field 9-11

- class member 9-3
- class name 3-2
- class name, point of 9-3
- consistency, type 3-8
- constant pointer 8-4
- default argument 8-10
- definition versus 3-2
- ellipsis in function 5-5, 8-8
- enumerator, point of 3-5
- example 3-2, 8-9
- example, function 8-9/10
- extern 3-2
- extern reference 8-19
- forward 7-4
- forward class 9-2, 10-1
- function 3-2, 8-8
- function template 14-27
- hiding —see name hiding
- in for, scope of 6-4
- in for statement 6-4
- in switch statement 6-3
- matching, overloaded function 13-3
- member 9-3
- multiple 3-8
- name 3-2
- name, point of 3-5
- overloaded 13-1
- overloaded name and friend 11-5
- parameter 8-8/9
- parentheses in 8-3/4
- pointer 8-4
- reference 8-5
- register 7-3
- scope of friend 3-4
- specifier 7-2
- statement 6-6
- statement, extension to C C-1
- static member 3-2
- storage class 7-3
- type 8-4
- type ambiguity 7-2
- typedef 3-2
- typedef as type 7-6
- versus cast ambiguity 8-3
- versus expression ambiguity 6-6
- {}, class 9-1
- {}, enum 7-12
- declaration* 7-1
- declaration-seq* 7-24
- declaration-statement* 6-6
- declarative region 3-1
- declarator 7-1, 8-1
 - &, reference 8-5
 - (), function 8-8
 - *, pointer 8-4
 - ::*, pointer to member 8-6
 - [], array 8-7
- example 8-2
- initializer, temporary and 12-3
- meaning of 8-4
- multidimensional array 8-7
- declarator* 8-1
- declarator-id* 8-2
- decl-specifier* 7-2
- decrement
 - operator 5-7, 12/13
 - operator, overloaded 13-20
- deduction, template argument 14-23
- default
 - access control 11-1
 - argument and name hiding 8-12
 - argument and virtual function 8-12
 - argument, binding of 8-11
 - argument declaration 8-10
 - argument, evaluation of 8-11/12
 - argument, example of 8-10/11
 - argument, overload resolution and 13-10
 - argument, overloaded operator and 13-19
 - argument, scope of 8-12
 - argument, type checking of 8-11
 - array size 8-7
 - behavior 17-1, 4
 - constructor 12-1
 - constructor and initialization 12-9
 - constructor and new 5-15
 - destructor 12-6
 - initialization 8-14
 - initializers, overloading and 13-2
 - member access, struct 9-1
 - member access, union 9-1
- default label 6-1, 3
- #define 16-5
- definition 3-2, 17-1
 - alternate 17-18
 - and initialization 7-2
 - class 3-3
 - class 9-1, 4
 - class name as type 9-1
 - constructor 8-13
 - declaration as 7-2
 - empty class 9-1
 - enumerator 3-3
 - enumerator point of 7-12
 - example 3-2
 - example, function 8-13
 - example, nested class 9-12/13
 - function 3-3
 - function 8-13
 - function template 14-27
 - local class 9-13
 - member function 9-6
 - name hiding, class 9-2
 - namespace 7-14
 - nested class 9-12
 - object 3-3
 - of template 14-1
 - pure virtual function 10-9
 - scope, macro 16-6
 - scope of class 9-2
 - static member 9-10
 - versus declaration 3-2
 - virtual function 10-7
 - {}, class 9-1
- definitions, implementation-generated 3-2
- delete
 - array 5-16
 - object 5-16
- delete 3-10, 5-16/17, 12-8
 - destructor and 5-17, 12-7
 - example 12-8
 - example, destructor and 12-9
 - example, scope of 12-9
 - extension to C C-1
 - extension to C overloading C-2
 - operator 17-18, 18-12, 20-18
 - overloading and 3-11
 - type of 12-8
 - undefined 5-16
 - undefined value 5-17
- delete[], operator 17-18, 18-13
- deleted object, undefined 3-11, 5-17
- delete-expression* 5-16

- dependent name 14–6
- deprecated features 5–7, 13
- <deque> 23–9
- deque 23–15
 - assign 23–17
 - erase 23–18
 - insert 23–18
 - resize 23–17
- dereferencing 5–2
 - see also indirection
- derivation —see inheritance
- derived
 - class 17–21
 - class 10–1
 - class cast 5–10
 - class example 10–1
 - class, most 12–12
 - class object, assignment 5–22
 - class, overloading and 13–3
- destination type 8–15
- destroy 20–15
- destruction
 - of auto 6–5/6
 - of local static 6–6
 - of local variable 6–5/6
 - of temporary 12–3
 - of temporary, order of 12–3
- destructor 12–6, 17–7
 - anachronism, free store and C–12
 - anachronism, *this* and C–12
 - and array order of execution 12–6
 - and *const* 9–9, 12–6
 - and *delete* 5–17, 12–7
 - and *delete* example 12–9
 - and exception, explicit 12–8
 - and exit from scope 6–5
 - and fundamental type 12–7
 - and member function 12–7
 - and placement of object 12–7
 - and virtual function call 12–15
 - and *volatile* 9–9, 12–6
 - call example, explicit 12–7
 - call, explicit 12–7
 - call, implicit 12–7
 - call, unspecified 6–6
 - default 12–6
 - exception handling 15–3
 - extension to C C–2
 - for temporary 12–3
 - inheritance of 12–6
 - non-trivial 12–6
 - order of execution 12–6
 - order of execution, base class 12–6
 - order of execution, member 12–6
 - program termination and 12–7
 - pure virtual 12–6
 - restriction 12–6/7
 - static object 3–9
 - union 9–11
 - virtual 12–6
- diagnostic message 1–2
- difference from C expression evaluation C–1
- digit* 2–4
- digit-sequence* 2–8
- digraph 2–3
- direct base class 10–1
- direct-abstract-declarator* 8–2
- direct-declarator* 8–1
- directed acyclic graph —see DAG
- directive
 - error 16–8
 - null 16–8
 - pragma 16–8
 - preprocessing 16–1
- direct-new-declarator* 5–14
- distance 24–12
- distance_type*
 - T* 24–12
- bidirectional_iterator* 24–12
- forward_iterator* 24–12
- input_iterator* 24–12
- random_access_iterator* 24–12
- distinct string 2–8
- div* 26–30
- divides 20–6
- division
 - by zero, undefined 5–1, 18
 - implementation defined 5–18
 - operator 5–18
- djacent_difference* 26–29
- do statement 6–3/4
- doclose, messages* 22–34
- do_compare, collate* 22–23
- doconvert, codecvt* 22–16
- do_curr_symbol, moneypunct* 22–32
- do_date_order, time_get* 22–26
- do_decimal_point*
 - moneypunct* 22–32
 - numpunct* 22–21
- do_falsename, numpunct do_truename* 22–22
- do_frac_digits, moneypunct* 22–32
- doget, messages* 22–34
- do_get*
 - money_get* 22–29
 - num_get* 22–18
- do_get_date, time_get* 22–26
- do_get_monthname, time_get* 22–26
- do_get_time, time_get* 22–26
- do_get_weekday, time_get* 22–26
- do_get_year, time_get* 22–26
- do_grouping*
 - moneypunct* 22–32
 - numpunct* 22–22
- do_hash, collate* 22–23
- do_is, ctype* 22–12
- domain_error* 19–3
 - domain_error* 19–3
 - domain_error* 19–3
- dominance, virtual base class 10–5
- do_narrow, ctype* 22–13
- do_negative_sign, moneypunct* 22–32
- do_neg_format, moneypunct* 22–32
- doopen, messages* 22–34
- do_pos_format, moneypunct* 22–32
- do_positive_sign, moneypunct* 22–32
- do_put*
 - money_put* 22–30
 - num_put* 22–20
 - time_put* 22–28
- do_scan_is, ctype* 22–12
- do_scan_not, ctype* 22–12
- dot operator —see class member access operator
- do_thousands_sep*
 - moneypunct* 22–32
 - numpunct* 22–22
- do_tolower, ctype* 22–12
- do_toupper, ctype* 22–12
- do_transform, collate* 22–23
- do_truename do_falsename, numpunct* 22–22
- double quote 2–7
- double
 - literal 2–8

- type 3–16
- type specifier 7–9
- do_widen, ctype 22–13
- dynamic
 - binding —see virtual function
 - cast 5–7, 18–16
 - initialization 3–9
 - storage duration 3–10, 5–14
 - type 1–2

E

- E suffix 2–8
- eback, basic_streambuf 27–26
- effect, side 1–5
- egptr, basic_streambuf 27–26
- elaborated
 - class name 7–10, 9–2/3
 - enum name 7–10
 - type specifier 14–5
 - type specifier 3–5
 - type specifier —see elaborated class name
- elaborated-type-specifier* 7–10
- #elif 16–2
- elimination of temporary 12–2
- ellipsis
 - example 8–10
 - in function declaration 5–5, 8–8
 - overload resolution and 13–10
- #else 16–3
- else 6–2
- empty
 - argument list 8–8
 - class definition 9–1
 - class sizeof 9–1
 - statement 6–1
- empty 24–11
 - basic_string 21–12
- end, basic_string 21–10
- #endif 16–3
- endl 27–47, 49
- end-of-file 23–15
- ends 27–49
- entity 3–1
- enum name, typedef 7–7
- enum
 - declaration { } 7–12
 - name, elaborated 7–10
 - overloading and 13–2
 - type of 7–12
 - type specifier 7–10
- enumerated type 3–15, 17–5
- enumeration 7–12
 - constant 7–12
 - example 7–13
 - linkage of 3–7
 - type, conversion to 5–10
 - type, static_cast, conversion to 5–10
 - underlying type 7–12
- enumerator
 - class, scope of 7–13
 - definition 3–3
 - member 7–13
 - point of declaration 3–5
 - point of definition 7–12
 - redefinition 7–12
 - restriction 7–12
 - value of 7–12
- enumerator* 7–12
- environment, program 3–8

- eof
 - basic_ios 27–19
 - ios_traits 27–8
- eos
 - ios_traits 27–8
 - string 21–26
 - string_char_traits 21–4, 11, 17
 - wstring 21–27
- epptr, basic_streambuf 27–27
- eq
 - string 21–26
 - string_char_traits 21–4, 18/20
 - wstring 21–27
- eq_char_type, ios_traits 27–9
- eq_int_type, ios_traits 27–9
- equal 25–11
 - istreambuf_iterator 24–24
 - ostreambuf_iterator 24–26
- equality operator 5–20
- equality-expression* 5–20
- equal_range 25–21
- equal_to 20–6
- equivalence
 - template type 14–21
 - type 7–6, 9–1
- equivalent
 - parameter declarations 13–1
 - parameter declarations, overloading and 13–1
- erase
 - deque 23–18
 - list 23–21
 - vector 23–27
- <errno.h> D–1
- error
 - checking, point of 14–4
 - directive 16–8
- #error 16–8
- escape
 - character —see backslash
 - sequence 2–7
 - sequence, undefined 2–7
- escape-sequence* 2–6
- evaluation
 - difference from C expression C–1
 - new, unspecified order of 5–16
 - of default argument 8–11/12
 - of expression, order of 5–1
 - order of argument 5–5
 - unspecified order of 3–9, 5–1
 - unspecified order of argument 5–5
 - unspecified order of function call 5–5
- example
 - *const 8–4
 - array 8–7
 - class definition 9–4
 - const 8–4
 - constant pointer 8–4
 - constructor 12–2
 - constructor and initialization 12–10
 - declaration 3–2, 8–9
 - declarator 8–2
 - definition 3–2
 - delete 12–8
 - derived class 10–1
 - destructor and delete 12–9
 - ellipsis 8–10
 - enumeration 7–13
 - explicit destructor call 12–7
 - explicit qualification 10–4
 - friend 9–2
 - friend function 11–4

- function declaration 8–9/10
 - function definition 8–13
 - linkage consistency 7–3
 - local class 9–13
 - member function 9–7, 11–4
 - member name access 11–4
 - nested class 9–12
 - nested class definition 9–12/13
 - nested class forward declaration 9–13
 - nested type name 9–14
 - of default argument 8–10/11
 - of incomplete type 3–14
 - of overloading 13–1
 - pointer to member 8–6
 - pure virtual function 10–9
 - scope of `delete` 12–9
 - scope resolution operator 10–4
 - static member 9–10
 - subscripting 8–7
 - type name 8–2
 - `typedef` 7–6
 - unnamed parameter 8–13
 - variable parameter list 8–10
 - virtual function 10–7/8
 - exception
 - allowing an 15–5
 - and `new` 5–16
 - arithmetic 5–1
 - declaration scope 3–3
 - explicit destructor and 12–8
 - handler 15–3, 17–21
 - handler, `incomplete@type@in` 15–3
 - handling 15–1
 - handling constructor 15–3
 - handling destructor 15–3
 - throwing 15–2
 - undefined arithmetic 5–1
 - `<exception>` 18–17
 - exception
 - exception 19–2
 - exception 19–2
 - operator= 19–2
 - what 19–2
 - ~exception 19–2
 - ~exception, exception 19–2
 - exception-declaration 15–1
 - exceptions, `basic_ios` 27–19
 - exception-specification 15–4
 - exception::what message, implementation-defined 19–2
 - execution character set, basic 1–3
 - exit from scope, destructor and 6–5
 - `exit` 3–9, 6–5, 17–16, 18–10, 14
 - `exp` 26–18, 31
 - complex 26–7
 - explanation, subscripting 8–7
 - explicit
 - constructor call 12–2
 - destructor and exception 12–8
 - destructor call 12–7
 - destructor call example 12–7
 - instantiation syntax 14–14
 - qualification 3–5, 7–14
 - qualification example 10–4
 - type conversion —see casting
 - explicit specifier 7–5
 - exponent-part 2–8
 - expression 5–1
 - ambiguity, declaration versus 6–6
 - assignment 5–22
 - constant 5–23
 - evaluation, difference from C C–1
 - order of evaluation of 5–1
 - parenthesized 5–3
 - pointer to member constant 5–12
 - postfix 5–4
 - primary 5–3
 - reference 5–2
 - statement 6–1
 - unary 5–12
 - expression 5–23
 - expression-list 5–4
 - expression-statement 6–1
 - extension
 - to C C–1/2
 - to C anonymous union C–1
 - to C class C–1
 - to C `const` C–1
 - to C, dangerous C–11
 - to C declaration statement C–1
 - to C `delete` C–1
 - to C destructor C–2
 - to C, implementation-defined C–11
 - to C inline function C–1
 - to C memberwise assignment C–2
 - to C memberwise initialization C–2
 - to C multiple inheritance C–2
 - to C `new` C–1
 - to C overloading C–1
 - to C overloading `delete` C–2
 - to C overloading `new` C–2
 - to C pointer to member C–2
 - to C `protected` C–2
 - to C reference type C–1
 - to C single precision arithmetic C–1
 - to C type checking C–1
 - to C user-defined type C–1
 - to C, `void*` pointer type C–1
 - to C `volatile` C–2
 - extern
 - "C" 17–16/18
 - "C++" 17–16/18
 - declaration 3–2
 - linkage of 7–3
 - linkage specification 7–24
 - reference declaration 8–19
 - restriction 7–3
 - external linkage 3–7, 17–16/18
- ## F
- F suffix 2–8
 - f suffix 2–8
 - facet, locale 22–5
 - fail, `basic_ios` 27–19
 - failure, `ios_base::failure` 27–12
 - falsename, `numpunct` `true`name 22–21
 - `fclose` 27–61
 - field declaration : 9–11
 - file 2–1
 - scope 17–17
 - source 2–1, 17–16, 18
 - `filebuf` 27–58
 - fill 25–15
 - `basic_ios` 27–15
 - `gslice_array` 26–24
 - `indirect_array` 26–27
 - `ios_base` 22–10
 - `mask_array` 26–26
 - `slice_array` 26–21
 - `valarray` 26–15

- fill_n 25-15
- final overrider 10-6
- find 25-9
 - basic_string 21-18
- find_end 25-10
- find_first_not_of, basic_string 21-20
- find_first_of 25-10
 - basic_string 21-19
- find_if 25-9
- find_last_not_of, basic_string 21-20
- find_last_of, basic_string 21-19
- floctal-digit 2-5
- fixed 27-21
- flags, ios_base 27-14
- flip, bitset 23-13
- float
 - literal 2-8
 - type 3-16
 - type specifier 7-9
- <float.h> D-1
- floating
 - point conversion 4-3
 - point conversion, implementation-defined 4-3
 - point conversion, undefined 4-3
 - point literal 2-8
 - point literal, type of 2-8
 - point promotion 4-3
 - point type 3-15
 - point type 3-16
 - point type, implementation-defined 3-16
- floating-integral conversion 4-3
- floating-literal 2-8
- floating-suffix 2-8
- float_round_style 18-8
- floor 26-31
- flush 27-14, 33, 44, 49
 - basic_ostream 27-49
- fmtflags 22-17, 24, 28
 - ios 27-50
 - ios_base 27-12
- fopen 27-60/61
- for
 - scope of declaration in 6-4
 - statement 6-3/4
 - statement, continue in 6-4
 - statement, declaration in 6-4
- for_each 25-9
- form feed 2-7
- formal
 - argument —see also parameter
 - argument —see parameter
- forward
 - class declaration 9-2, 10-1
 - declaration 7-4
 - declaration example, nested class 9-13
- forward_iterator 24-11
 - distance_type 24-12
 - iterator_category 24-11
 - value_type 24-12
- forward_iterator_tag 24-11
- fprintf 27-45
- fractional-constant 2-8
- free
 - store —see also new, delete
 - store and constructor anachronism C-12
 - store and destructor anachronism C-12
- free 20-18
- valarray 26-15
- freestanding implementation 17-15
- freeze
 - ostream D-10
 - stringstream D-6
- frexp 26-31
- friend
 - class, scope of 11-5
 - declaration, scope of 3-4
 - function, scope of 11-5
 - specifier 17-20
- friend
 - access specifier and 11-5
 - class access and 11-5
 - declaration, overloaded name and 11-5
 - example 9-2
 - function, access and 11-4
 - function example 11-4
 - function, inline 11-5
 - function, linkage of 11-5
 - function, member function and 11-4
 - function, nested class 9-13
 - inheritance and 11-5
 - member function 11-5
 - specifier 7-7
 - template and 14-31
 - virtual and 10-7
- front_inserter 24-19/20
- front_insert_iterator 24-19
 - front_insert_iterator 24-19
 - front_insert_iterator 24-19
 - operator* 24-19
 - operator++ 24-20
 - operator= 24-19
- fscanf 27-35
- fseek 27-61
- <fstream> 27-58
- full-expression 1-5
- function
 - see also friend function, member function, inline
 - function, virtual function
 - allocation 3-10, 5-15, 12-8
 - argument —see argument
 - arguments, implementation-defined order of evaluation of 8-12
 - body 8-13
 - call 5-5
 - call evaluation, unspecified order of 5-5
 - call operator 5-4, 13-18
 - call operator, overloaded 13-20
 - call, recursive 5-5
 - call, undefined 5-10/11
 - cast, pointer to 5-10
 - cast, undefined pointer to 5-10
 - comparison 17-1
 - comparison, pointer to 5-20
 - conversion, pointer to 4-2
 - deallocation 3-11, 5-17, 12-8
 - declaration 3-2, 8-8
 - declaration ambiguity 8-15
 - declaration, ellipsis in 5-5, 8-8
 - declaration example 8-9/10
 - declaration matching, overloaded 13-3
 - declarator () 8-8
 - definition 8-13
 - definition 3-3
 - definition anachronism, C C-11
 - definition anachronism, old style C-11
 - definition example 8-13
 - generated 14-9
 - global 17-17, 20
 - handler 17-1
 - linkage specification 7-24
 - linkage specification overloaded 7-24
 - modifier 17-2

- name hiding 13-3
- name, overloaded 13-1
- observer 17-2
- operator 13-18
- overloaded —see also overloading
- parameter —see parameter
- parameter adjustment 8-9
- pointer to member 5-18
- prototype scope 3-4
- replacement 17-2
- reserved 17-2
- return —see return
- return type —see return type
- scope 3-4
- scope of friend 11-5
- specialized 14-9
- specifier 7-5
- template 14-22
- template declaration 14-27
- template definition 14-27
- type 3-16, 8-8/9
- viable 13-4
- virtual —see virtual function
- virtual member 17-18, 20
- <functional> 20-4
- function-body* 8-13
- function-definition* 8-13
- function-like macro 16-4
- function-specifier* 7-5
- function-to-pointer conversion 4-2
- function-try-block* 15-1
- fundamental
 - type 3-15
 - type conversion —see conversion, user-defined conversion
 - type, destructor and 12-7

G

- gbump, `basic_streambuf` 27-26
- gcount, `basic_istream` 27-39
- generate 25-15
- generated
 - class 14-9
 - destructor —see default destructor
 - function 14-9
- generate_n 25-15
- get
 - auto_ptr 20-17
 - basic_istream 27-39
 - money_get 22-29
 - num_get 22-18
- get_date, time_get 22-25
- getline
 - basic_istream 27-40
 - basic_string 21-25
- getloc
 - basic_streambuf 27-25
 - ios_base 27-15
- get_monthname, time_get 22-25
- get_pos, ios_traits 27-9
- get_state, ios_traits 27-9
- get_temporary_buffer 20-15
- get_time, time_get 22-25
- get_weekday, time_get 22-25
- get_year, time_get 22-25
- global
 - anonymous union 9-11
 - function 17-17, 20
 - name 3-4
 - namespace scope 3-4

- scope 3-4
- global, locale 22-9
- good, `basic_ios` 27-19
- goto
 - initialization and 6-6
 - statement 6-1, 5
- gp_ptr, `basic_streambuf` 27-26
- grammar A-1
- greater
 - than operator 5-19
 - than or equal to operator 5-19
- greater 20-7
- greater_equal 20-7
- grouping, `num_punct` 22-21
- gslice
 - class 26-21
 - gslice 26-22
 - gslice 26-22
 - length 26-23
 - start 26-23
 - stride 26-23
- gslice_array 26-23
 - fill 26-24
- gslice_array 26-23
- gslice_array 26-23
- operator%= 26-24
- operator&= 26-24
- operator*= 26-24
- operator+= 26-24
- operator-= 26-24
- operator/= 26-24
- operator<<= 26-24
- operator= 26-24
- operator>>= 26-24
- operator^= 26-24
- operator|= 26-24

H

- handler
 - exception 15-3, 17-21
 - function 17-1
 - incomplete@type@in exception 15-3
- handler* 15-1
- handler-seq* 15-1
- has, locale 22-8
- hash, collate 22-23
- header
 - C 17-16/18, 17-20/D-1
 - C++ D-1
- headers
 - C++ 17-15
 - ISO C 2-5
 - library 2-5
 - standard 2-5
- hex number 2-7
- hex 27-21
- hexadecimal literal 2-6
- hexadecimal-digit* 2-5
- hexadecimal-escape-sequence* 2-7
- hexadecimal-literal* 2-5
- hiding —see name hiding
- horizontal tab 2-7
- hosted implementation 17-15

I

- id, qualified 5-3
- id, locale 22-6
- identifier 2-4, 5-3, 7-1

- _, underscore in 2-4
- identifier* 2-4
- identities and overloading, operator 13-19
- id-expression 5-3
- id-expression* 5-3
- `#if` 16-2, 17-20
- if statement 6-2
- `#ifdef` 16-3
- `#ifndef` 16-3
- `ifstream` 27-58
- `ignore, basic_istream` 27-40
- ill-formed program 1-2
- `imag` 26-5
 - complex 26-6
- `imbue`
 - `basic_filebuf` 27-63
 - `basic_streambuf` 27-27
 - `ios_base` 27-15
- implementation
 - defined alignment of bit-field 9-11
 - defined allocation 9-5
 - defined bit-field allocation 9-11
 - defined division 5-18
 - defined modulus 5-18
 - defined pointer comparison 5-20
 - defined pointer integer conversion 5-10
 - defined pointer subtraction 5-19
 - defined right shift 5-19
 - defined `sizeof` expression 5-14
 - defined type of `ptrdiff_t` 5-19
 - defined type of `size_t` 5-14
 - defined type of `sizeof` expression 2-5
 - freestanding 17-15
 - hosted 17-15
 - limits 1-2
- implementation-defined 4-3, 8-20, 17-15, 18, 18-1, 10, 14,
 - 16/18, 19-2, 27-2/C-15
 - `__STDC__` 16-9
 - alignment requirement 3-14
 - allocation 11-2
 - `asm` 7-24
 - `bad_alloc::what` 18-14
 - `bad_cast::what` 18-16
 - `bad_exception::what` 18-18
 - `bad_typeid::what` 18-17
 - `basic_ios::failure argument` 27-19
 - behavior 1-2
 - behavior reentrancy 17-20
 - `exception::what message` 19-2
 - extension to C C-11
 - floating point conversion 4-3
 - floating point type 3-16
 - generation of temporary 12-2
 - linkage of `main()` 3-8
 - linkage specification 7-24
 - object linkage 7-25
 - order of evaluation of function arguments 8-12
 - parameters to `main()` 3-8
 - range of types 2-5
 - sign of bit-field 9-11
 - sign of `char` 3-15
 - `sizeof` integral type 3-15
 - `sizeof` type 3-15
 - `smanip` 27-50
 - `streamoff` 27-7
 - `streampos` 27-7
 - string literal 2-8
 - type of integer literal 2-6
 - `type_info::name` 18-16
 - value of `char` literal 2-7
 - value of multicharacter literal 2-7
 - volatile 7-8
 - `wchar_t` 3-16
 - `wstreamoff` 27-7
 - `wstreampos` 27-7
- implementation-dependent 27-34, 44
- implementation-generated definitions 3-2
- implementation-defined types 17-5
- implicit
 - conversion 4-1, 5-2, 12-3
 - conversion sequence 4-1
 - conversion sequences implied object parameter 13-5
 - destructor call 12-7
 - user-defined conversion 12-5
- implicitly-declared
 - copy assignment operator 12-19
 - copy constructor 12-17
 - default constructor 12-1
 - default constructor —see default constructor
- implicit object argument 13-5
- implied
 - object parameter 13-5
 - object parameter, implicit conversion sequences 13-5
- `in_avail, basic_streambuf` 27-25
- `#include` 16-3, 17-16, 20
- `includes` 25-23
- inclusion
 - conditional 16-2
 - source file 16-3
- incomplete
 - class, cast to 5-10
 - type 3-14
 - type, example of 3-14
- incompletely-defined object type 3-14
- `incomplete@type@in` exception handler 15-3
- increment
 - `bool` 5-7, 13
 - operator 5-7, 12/13
 - operator, overloaded 13-20
- indeterminate uninitialized variable 8-14
- indirect base class 10-1
- `indirect_array` 26-26
 - `fill` 26-27
 - `indirect_array` 26-26
 - `indirect_array` 26-26
 - operator`%=` 26-27
 - operator`&=` 26-27
 - operator`*=` 26-27
 - operator`+=` 26-27
 - operator`-=` 26-27
 - operator`/=` 26-27
 - operator`<<=` 26-27
 - operator`=` 26-26
 - operator`>>=` 26-27
 - operator`^=` 26-27
 - operator`|=` 26-27
- indirection 5-12
 - operator 5-12
- inequality operator 5-20
- inheritance 10-1
 - see also multiple inheritance
 - and `friend` 11-5
 - of constructor 12-1
 - of destructor 12-6
 - of overloaded operator 13-19
 - of user-defined conversion 12-5
- `Init, ios_base::Init` 27-14
- `init, basic_ios` 27-33, 43
- `~Init, ios_base::Init` 27-14
- init-declarator* 8-1
- init-declarator-list* 8-1
- initialization 8-14

- and goto 6-6
- and new 5-15
- array 8-16
- array of class objects 8-18, 12-10
- auto 6-6
- auto object 8-14
- automatic 6-6
- base class 12-11
- character array 8-18
- class member 8-15
- class object 8-16, 12-9/10
- class object —see also constructor
- const 7-8, 8-16
- const member 12-12
- constructor and 12-9/10
- default 8-14
- default constructor and 12-9
- definition and 7-2
- dynamic 3-9
- example, constructor and 12-10
- extension to C memberwise C-2
- in block 6-6
- jump past 6-3, 6
- local static 6-6
- member 12-11
- member object 12-11
- order of 3-9, 10-2
- order of base class 12-12
- order of member 12-12
- order of virtual base class 12-12
- overloaded assignment and 12-10
- parameter 5-5
- reference 8-6, 19
- reference member 12-12
- run-time 3-9
- static member 9-10
- static object 3-9, 8-14
- struct 8-16
- union 8-18, 9-11
- virtual base class 12-12, 18
- initializer 8-14
 - base class 8-13
 - constant 9-4
 - list {} 8-16
 - member 8-13
 - scope of member 12-13
 - temporary and declarator 12-3
- initializer* 8-14
- initializer-clause* 8-14
- initializer-list* 8-14
- injection from template, name 14-9
- inline 17-20
 - friend function 11-5
 - function 7-5
 - function, extension to C C-1
 - function, linkage of 7-3
 - member function 9-6
- inline
 - linkage of 3-7
 - specifier 7-5
- inner_product* 26-28
- inplace_merge* 25-23
- input_iterator* 24-11
 - distance_type* 24-12
 - iterator_category* 24-11
 - value_type* 24-12
- input_iterator_tag* 24-11
- insert
 - basic_string* 21-14
 - deque* 23-18
 - list* 23-21
 - vector* 23-27
- inserter* 24-21
- insert_iterator* 24-20
 - insert_iterator* 24-20
 - insert_iterator* 24-20
 - operator** 24-21
 - operator++* 24-21
 - operator=* 24-20
- instantiation
 - and specialization 14-13
 - multiple 14-13
 - point of 14-9
 - syntax, explicit 14-14
 - template 14-9
- int, bool promotion to 4-2
- int
 - type 3-15
 - type specifier 7-9
 - type, unsigned 3-15
- integer
 - cast, pointer to 5-10
 - conversion 4-3
 - conversion, implementation defined pointer 5-10
 - conversion, signed unsigned 4-3
 - literal 2-6
 - literal, base of 2-6
 - literal, implementation-defined type of 2-6
 - literal, type of 2-6
 - to pointer cast 5-10
 - type 3-16
- integer-literal* 2-5
- integer-suffix* 2-6
- integral
 - promotion 4-2, 5-5
 - type 3-15
 - type 3-16
 - type, implementation-defined *sizeof* 3-15
 - value, undefined unrepresentable 4-3
- internal linkage 3-7
- internal 27-21
- interpretation
 - of binary operator 13-19
 - of unary operator 13-19
- INT_T 27-2
- invalid_argument* 19-3, 23-11/12
 - invalid_argument* 19-3
 - invalid_argument* 19-3
- invocation, macro 16-5
- <iomanip> 27-31
- <iostream> 27-6
- ios 27-4, 6
 - fmtflags* 27-50
- ios_base* 27-9
 - fill* 22-10
 - flags* 27-14
 - fmtflags* 27-12
 - getloc* 27-15
 - imbue* 27-15
 - ios_base* 27-16
 - ios_base* 27-16
 - iostate* 27-13
 - isword* 27-16
 - openmode* 27-13
 - precision* 27-15
 - pword* 27-16
 - seekdir* 27-13
 - setf* 27-14
 - unsetf* 27-15
 - width* 22-10, 27-15
 - xalloc* 27-16
- ios_base::failure* 27-11

- failure 27-12
 - what 27-12
 - ios_base::Init 27-14
 - Init 27-14
 - ~Init 27-14
 - <iosfwd> 27-3
 - iostate 22-17, 24, 28
 - ios_base 27-13
 - ios_traits 27-7
 - copy 27-9
 - eof 27-8
 - eos 27-8
 - eq_char_type 27-9
 - eq_int_type 27-9
 - get_pos 27-9
 - get_state 27-9
 - is_eof 27-9
 - is_whitespace 27-9
 - length 27-8
 - newline 27-8
 - not_eof 27-8
 - state_type 27-8
 - to_char_type 27-9
 - to_int_type 27-9
 - ios_traits<char> 27-6, 8
 - ios_traits<wchar_t> 27-6, 8
 - <iostream> 27-4
 - ipfx, basic_istream 27-33
 - is
 - ctype 22-11
 - ctype<char> 22-15
 - isalnum 22-9
 - isalpha 22-9
 - iscntrl 22-9
 - is_del
 - string 21-26
 - string_char_traits 21-4
 - wstring 21-28
 - isdigit 22-9
 - is_eof, ios_traits 27-9
 - isfx, basic_istream 27-34
 - isgraph 22-9
 - islower 22-9
 - ISO
 - C headers 2-5
 - C summary, compatibility with C-2
 - <iso646.h> D-1/C-15
 - is_open
 - basic_filebuf 27-60
 - basic_ifstream 27-64
 - basic_ofstream 27-65
 - isprint 22-9
 - ispunct 22-9
 - isspace 21-4, 26, 22-9
 - <istream> 27-30
 - istream 27-4, 31
 - istreambuf_iterator 24-22
 - equal 24-24
 - istreambuf_iterator 24-23
 - istreambuf_iterator 24-23
 - iterator_category 24-24
 - operator!= 24-25
 - operator* 24-24
 - operator++ 24-24
 - operator== 24-24
 - proxy 24-23
 - istream_iterator 24-21
 - operator== 24-22
 - istringstream 27-51
 - istrstream D-9
 - istrstream D-9
 - istrstream D-9
 - rdbuf D-9
 - str D-9
 - isupper 22-9
 - is_whitespace, ios_traits 27-9
 - iswspace 21-28
 - isxdigit 22-9
 - iteration statement 6-3
 - iteration-statement 6-3, 5
 - scope 6-3
 - Iterator Requirements 24-1
 - <iterator> 24-8
 - iterator_category
 - T* 24-12
 - bidirectional_iterator 24-11
 - forward_iterator 24-11
 - input_iterator 24-11
 - istreambuf_iterator 24-24
 - operator!= 24-26
 - ostreambuf_iterator 24-26
 - output_iterator 24-11
 - random_access_iterator 24-11
- iter_swap 25-13
- iworð, ios_base 27-16
- ## J
- Jessie 12-3
 - jump
 - past initialization 6-3, 6
 - statement 6-5
 - jump-statement 6-5
- ## K
- keyword A-1
 - anachronism, overload C-11
 - list 2-4
- ## L
- L
 - prefix 2-7/8
 - suffix 2-6, 8
 - l suffix 2-6, 8
 - label 6-5
 - case 6-1, 3
 - default 6-1, 3
 - name space 6-1
 - scope of 3-4, 6-1
 - specifier : 6-1
 - labeled statement 6-1
 - lattice —see DAG, sub-object
 - layout
 - access specifier and object 11-2
 - bit-field 9-11
 - class object 9-5, 10-2
 - layout-compatible type 3-15
 - left
 - shift operator 5-19
 - shift, undefined 5-19
 - left 27-21
 - length of name 2-4
 - length
 - gslice 26-23
 - ios_traits 27-8
 - slice 26-20
 - string 21-27
 - string_char_traits 21-4, 9/10, 12/14, 16, 18/23

- valarray 26-14
- wstring 21-28
- length_error 19-3, 21-8
 - length_error 19-3
 - length_error 19-3
- less
 - than operator 5-19
 - than or equal to operator 5-19
- less 20-7
- less_equal 20-7
- lexical conventions 2-1
- lexicographical_compare 25-27
- library
 - C++ Standard 17-1, 18/19, 21
 - Standard C 17-1, 6, 17-15/C-13, C-15
 - headers 2-5
- limits, implementation 1-2
- <limits> 2-5, 18-2
- <limits.h> D-1
- #line 16-8
- linkage 3-1/2, 7
 - consistency 7-3
 - consistency example 7-3
 - external 3-7, 17-16/18
 - implementation-defined object 7-25
 - internal 3-7
 - of class 3-7
 - of const 3-7, 7-3
 - of enumeration 3-7
 - of extern 7-3
 - of friend function 11-5
 - of inline 3-7
 - of inline function 7-3
 - of main(), implementation-defined 3-8
 - of static 3-7, 7-3, 24
 - overloading and 14-28
 - specification 7-24
 - specification class 7-24
 - specification consistency 7-24
 - specification, extern 7-24
 - specification function 7-24
 - specification, implementation-defined 7-24
 - specification object 7-24/25
 - specification overloaded function 7-24
 - template 14-9
 - to C 7-24
- linkage-specification 7-24
- list
 - keyword 2-4
 - operator 2-4, 13-18
 - {}, initializer 8-16
- <list> 23-9
- list 23-18
 - assign 23-20
 - erase 23-21
 - insert 23-21
 - merge 23-22
 - remove 23-21
 - resize 23-20
 - reverse 23-22
 - sort 23-22
 - splice 23-21
 - unique 23-22
- literal 2-5, 5-3
 - base of integer 2-6
 - character 2-7
 - decimal 2-6
 - double 2-8
 - float 2-8
 - floating point 2-8
 - hexadecimal 2-6
 - implementation-defined string 2-8
 - implementation-defined type of integer 2-6
 - implementation-defined value of char 2-7
 - implementation-defined value of multicharacter 2-7
 - integer 2-6
 - long 2-6
 - long double 2-8
 - multicharacter 2-7
 - octal 2-6
 - type of character 2-7
 - type of floating point 2-8
 - type of integer 2-6
 - unsigned 2-6
 - wide string 2-8
- literal 2-5
- local
 - class definition 9-13
 - class example 9-13
 - class member function 9-13
 - class, member function in 9-7
 - class nested class 9-14
 - class restriction 9-14
 - class restriction, static member 9-10
 - class, scope of 9-13
 - object, static 3-10
 - object storage duration 3-10
 - scope 3-3
 - static, destruction of 6-6
 - static initialization 6-6
 - variable, destruction of 6-5/6
- <locale> 22-1
- locale
 - category 22-4
 - classic 22-9
 - facet 22-5
 - global 22-9
 - has 22-8
 - id 22-6
 - locale() 22-6
 - name 22-8
 - operator!= 22-8
 - operator() 22-8
 - operator== 22-8
 - transparent 22-9
 - use 22-7
 - ~locale() 22-7
- locale(), locale 22-6
- ~locale(), locale 22-7
- <locale.h> D-1
- locale-specific behavior 1-2
- log 26-18, 31
 - complex 26-7
- log10 26-18, 31
 - complex 26-7
- logical
 - AND operator 5-21
 - AND operator, side effects and 5-21
 - OR operator 5-21
 - OR operator, side effects and 5-21
 - negation operator 5-12/13
- logical_and 20-7
- logical_not 20-7
- logical_or 20-7
- logic_error 19-2
 - logic_error 19-2
 - logic_error 19-2
- long
 - double literal 2-8
 - double type 3-16
 - literal 2-6
 - type 3-15

type specifier 7-9
 type, unsigned 3-15
 typedef and 7-2
 longjmp 18-20
long-suffix 2-6
 lookup
 member name 10-3
 name 3-1
 template name 14-3
 lower_bound 25-21
 lowercase 17-6
 lt
 string 21-26
 string_char_traits 21-4
 wstring 21-27
 lvalue 3-18
 assignment and 5-22
 cast 5-9/10
 cast, reinterpret_cast, 5-10
 cast, static_cast, 5-9
 conversion to rvalue 4-1
 modifiable 3-18
 lvalue-to-rvalue conversion 4-1

M

macro
 definition scope 16-6
 function-like 16-4
 invocation 16-5
 masking 17-20
 name 16-4
 object-like 16-4
 parameters 16-5
 preprocessor 16-1
 replacement 16-4
 main() 3-8
 implementation-defined linkage of 3-8
 implementation-defined parameters to 3-8
 parameters to 3-8
 return from 3-9
 make_heap 25-26
 make_pair 20-3
 malloc 20-18/C-16
 management anachronism, memory C-12
 <map> 23-29
 map 23-30
 operator< 23-32
 operator== 23-32
 operator[] 23-32
 mask_array 26-24
 fill 26-26
 mask_array 26-25
 mask_array 26-25
 operator%= 26-25
 operator&= 26-25
 operator*= 26-25
 operator+= 26-25
 operator-= 26-25
 operator/= 26-25
 operator<<= 26-25
 operator= 26-25
 operator>>= 26-25
 operator^= 26-25
 operator|= 26-25
 masking macro 17-20
 <math.h> D-1
 max 25-27
 valarray 26-18
 max_element 25-27
 max_size, basic_string 21-11
 meaning of declarator 8-4
 member
 —see also base class member
 access operator, overloaded 13-20
 access ambiguity 10-3
 access, base class 10-1
 access, class 5-6
 access, protected 11-6
 access, struct default 9-1
 access, union default 9-1
 array 9-4
 cast, pointer to 5-10/11
 class object 9-4
 constructor order of execution 12-2
 declaration 9-3
 declaration, class 9-3
 declaration, static 3-2
 definition, static 9-10
 destructor order of execution 12-6
 enumerator 7-13
 example, static 9-10
 function and access control 12-1
 function and friend function 11-4
 function call, undefined 9-7
 function, class 9-6
 function, const 9-8
 function, constructor and 12-2
 function definition 9-6
 function, destructor and 12-7
 function example 9-7, 11-4
 function, friend 11-5
 function in local class 9-7
 function, inline 9-6
 function, local class 9-13
 function, nested class 9-12
 function, overload resolution and 13-5
 function, static 9-9/10
 function template 14-30
 function, union 9-11
 function, virtual 17-18, 20
 function, volatile 9-8
 initialization 12-11
 initialization, const 12-12
 initialization, order of 12-12
 initialization, reference 12-12
 initialization, static 9-10
 initializer 8-13
 initializer, scope of 12-13
 local class restriction, static 9-10
 name access 11-1
 name access example 11-4
 name lookup 10-3
 name, overloaded 9-4
 object initialization 12-11
 of class type restriction 12-12
 pointer to —see pointer to member
 pointer value, null 4-4
 static 9-9
 static class 3-10
 storage duration, class 3-11
 template and static 14-31
 type of static 5-12, 9-10
 use, static 9-9
 member-declaration 9-3
 member-declarator 9-3
 member-specification 9-3
 memberwise
 assignment, extension to C C-2
 initialization, extension to C C-2
 memchr 21-30

- memcmp 21–27
- memcpy 21–27, 22–15
- mem-initializer* 12–11
- mem-initializer-id* 12–11
- memory
 - management —see also new, delete
 - management anachronism C–12
 - model 1–3
- <memory> 20–10
- merge 25–22
 - list 23–22
- message, diagnostic 1–2
- messages 22–33
 - close 22–34
 - doclose 22–34
 - doget 22–34
 - doopen 22–34
 - open 22–34
- messages_byname 22–35
- min 25–27
 - valarray 26–18
- min_element 25–27
- minus 20–6
- mismatch 25–11
- missing storage class specifier 7–3
- mod 26–31
- modf 26–31
- modifiable lvalue 3–18
- modifier function 17–2
- modulus
 - implementation defined 5–18
 - operator 5–18
- modulus 20–6
- money_get 22–28
 - do_get 22–29
 - get 22–29
- money_punct 22–31
 - do_curr_symbol 22–32
 - do_decimal_point 22–32
 - do_frac_digits 22–32
 - do_grouping 22–32
 - do_neg_format 22–32
 - do_negative_sign 22–32
 - do_pos_format 22–32
 - do_positive_sign 22–32
 - do_thousands_sep 22–32
- money_punct_byname 22–33
- money_put 22–30
 - do_put 22–30
 - put 22–30
- most derived class 12–12
- multibyte
 - character 1–2
 - string, null-terminated 17–6
- multicharacter
 - literal 2–7
 - literal, implementation-defined value of 2–7
- multidimensional
 - array 8–8
 - array declarator 8–7
- multimap 23–33
 - operator< 23–34
 - operator== 23–34
- multiple
 - declaration 3–8
 - inheritance 10–1/2
 - inheritance DAG 10–3
 - inheritance, extension to C C–2
 - inheritance, virtual and 10–8
 - instantiation 14–13
- multiplication operator 5–18

- multiplicative operator 5–18
- multiplicative-expression* 5–18
- multiset 23–36
 - operator< 23–37
 - operator== 23–37

N

- name 2–4, 3–1, 5–3
 - address of cv-qualified 5–12
 - and translation unit 3–2
 - class —see class name
 - declaration 3–2
 - dependent 14–6
 - elaborated enum 7–10
 - global 3–4
 - hiding 3–4/5, 5–3, 6–6
 - hiding, class definition 9–2
 - hiding, function 13–3
 - hiding, overloading versus 13–3
 - hiding, user-defined conversion and 12–5
 - injection from template 14–9
 - length of 2–4
 - lookup 3–1
 - lookup, member 10–3
 - lookup, template 14–3
 - macro 16–4
 - overloaded function 13–1
 - overloaded member 9–4
 - point of declaration 3–5
 - qualified 7–14
 - reserved 17–17
 - resolution, template 14–3
 - scope of 3–3
 - space, label 6–1
 - type —see type name
 - use of template 14–5
- name
 - locale 22–8
 - type_info 18–16
- namespace 17–8, 17–17/D–1
 - definition 7–14
 - scope 3–4
 - scope, anonymous union at 9–11
 - scope, global 3–4
 - std 17–17
- namespaces 7–14
- narrow
 - ctype 22–12
 - ctype<char> 22–15
- NDEBUG 17–16
- ne
 - string 21–26
 - string_char_traits 21–4
 - wstring 21–27
- negate 20–6
- negation operator, logical 5–12/13
- nested
 - class anachronism, scope of C–12
 - class definition 9–12
 - class definition example 9–12/13
 - class example 9–12
 - class forward declaration example 9–13
 - class friend function 9–13
 - class, local class 9–14
 - class member function 9–12
 - class, scope of 9–12
 - type name 9–14
 - type name example 9–14
 - type name, scope of 9–14

- <new> 2–5, 17–18, 18–10
 - new 3–10, 5–14/15, 12–8
 - array 5–15
 - array of class objects and 5–15
 - constructor and 5–15
 - default constructor and 5–15
 - exception and 5–16
 - extension to C C–1
 - extension to C overloading C–2
 - initialization and 5–15
 - operator 17–18, 18–11, 13, 20–18
 - placement syntax 5–15
 - scoping and 5–14
 - storage allocation 5–14
 - type of 12–8
 - unspecified constructor and 5–16
 - unspecified order of evaluation 5–16
 - new[], operator 17–18, 18–12/14
 - new-declarator* 5–14
 - new-expression* 5–14
 - new_handler* 3–11, 17–18, 18–14
 - new-initializer* 5–14
 - new-line 2–7
 - newline, ios_traits* 27–8
 - new-placement 5–14
 - new-type-id* 5–14
 - next_permutation* 25–28
 - noboolalpha* 27–19
 - nondigit* 2–4
 - none, *bitset* 23–14
 - nonnested class anachronism C–12
 - non-trivial
 - constructor 12–1
 - destructor 12–6
 - nonvirtual base class DAG 10–3
 - nonzero-digit* 2–5
 - norm, complex 26–6
 - noshowbase* 27–20
 - noshowpoint* 27–20
 - noshowpos* 27–20
 - noskipws* 27–20
 - not1* 20–8
 - not2* 20–8
 - notation, syntax 1–3
 - not_eof, ios_traits* 27–8
 - not_equal_to* 20–6
 - nouppercase* 27–20
 - NTBS 17–6, 27–45, 47, 27–60/D–10
 - static 17–6
 - nth_element* 25–20
 - NTMBS 17–6
 - static 17–6
 - NTWCS 17–6/7
 - static 17–7
 - null
 - character 0 2–9
 - directive 16–8
 - member pointer value 4–4
 - pointer 5–20
 - pointer constant 4–3/4
 - pointer value 4–3
 - reference 8–6
 - statement 6–1
 - NULL 18–1
 - null-terminated
 - byte string 17–6
 - multibyte string 17–6
 - wide-character string 17–6
 - number
 - hex 2–7
 - octal 2–7
 - Numeric type Requirements 26–1
 - <numeric> 26–27
 - numeric_limits* 3–15, 18–2
 - num_get* 22–17
 - do_get* 22–18
 - get* 22–18
 - numprint* 22–20
 - decimal_point* 22–21
 - do_decimal_point* 22–21
 - do_grouping* 22–22
 - do_thousands_sep* 22–22
 - do_truename do_falsename* 22–22
 - grouping* 22–21
 - thousands_sep* 22–21
 - truename falsename* 22–21
 - numprint_byname* 22–22
 - num_put* 22–19
 - do_put* 22–20
 - put* 22–20
- ## O
- object 1–3, 3–1, 18
 - class —see also class object
 - complete 1–4
 - definition 3–3
 - delete 5–16
 - destructor and placement of 12–7
 - destructor *static* 3–9
 - initialization, *auto* 8–14
 - initialization, *static* 3–9, 8–14
 - layout, access specifier and 11–2
 - lifetime 3–11
 - linkage, implementation-defined 7–25
 - linkage specification 7–24/25
 - representation 3–14
 - state 17–2
 - static local* 3–10
 - storage duration, local 3–10
 - temporary —see temporary
 - type, completely-defined 3–14
 - type, incompletely-defined 3–14
 - undefined deleted 3–11, 5–17
 - unnamed 12–2
 - object-expression 5–2
 - object-like macro 16–4
 - observer function 17–2
 - oct* 27–21
 - octal
 - literal 2–6
 - number 2–7
 - octal-escape-sequence* 2–7
 - octal-literal* 2–5
 - of overloading, example 13–1
 - offsetof* 18–2/C–16
 - OFF_T 27–2
 - ofstream* 27–58
 - old
 - style base class initializer anachronism C–12
 - style function definition anachronism C–11
 - one-definition rule 3–3
 - one's complement operator 5–12/13
 - open
 - basic_filebuf* 27–60
 - basic_ifstream* 27–64
 - basic_ofstream* 27–65
 - messages 22–34
 - openmode, ios_base* 27–13
 - operand
 - const* 5–1

- reference 5-1
- volatile 5-1
- operations on class object 9-1
- operator
 - %= 5-22
 - &= 5-22
 - *= 5-22
 - += 5-13, 22
 - = 5-22
 - /= 5-22
 - <<= 5-22
 - >>= 5-22
 - ^= 5-22
 - additive 5-18
 - address-of 5-12
 - assignment 5-22, 17-7
 - bitwise 5-21
 - bitwise AND 5-21
 - bitwise exclusive OR 5-21
 - bitwise inclusive OR 5-21
 - cast 5-12, 17, 8-2
 - class member access 5-6
 - comma 5-23
 - conditional expression 5-21
 - conversion 5-2, 12-4
 - copy assignment 12-17
 - decrement 5-7, 12/13
 - division 5-18
 - equality 5-20
 - example, scope resolution 10-4
 - function call 5-4, 13-18
 - function call 13-18
 - greater than 5-19
 - greater than or equal to 5-19
 - identities and overloading 13-19
 - increment 5-7, 12/13
 - indirection 5-12
 - inequality 5-20
 - left shift—see left shift operator
 - less than 5-19
 - less than or equal to 5-19
 - list 2-4, 13-18
 - logical AND 5-21
 - logical OR 5-21
 - logical negation 5-12/13
 - modulus 5-18
 - multiplication 5-18
 - multiplicative 5-18
 - new—see new
 - one's complement 5-12/13
 - overloaded 5-1
 - overloading—see also overloaded operator
 - overloading restrictions 13-18
 - pointer to member 5-17
 - precedence of 5-1
 - relational 5-19
 - right shift; right shift operator 5-19
 - scope resolution 3-4/5, 5-3, 9-6, 10-1, 9
 - shift—see left shift operator, right shift operator
 - side effects and comma 5-23
 - side effects and logical AND 5-21
 - side effects and logical OR 5-21
 - sizeof 5-12/13
 - subscripting 5-4, 13-18
 - unary 5-12
 - unary minus 5-12/13
 - unary plus 5-12/13
 - use, scope resolution 9-10
 - |= 5-22
- operator T*, valarray 26-15
- operator bool, basic_ios 27-18
- operator
 - delete 17-18, 18-12, 20-18
 - delete 5-17, 12-8
 - delete—see delete
 - delete[] 17-18, 18-13
 - delete[] 5-17, 12-8
 - function 13-18
 - new 17-18, 18-11, 13, 20-18
 - new 5-15, 12-8
 - new[] 17-18, 18-12/14
 - new[] 5-15, 12-8
 - overloaded 13-18
- operator!
 - basic_ios 27-18
 - valarray 26-13
- operator!= 20-3
- basic_string 21-23
- bitset 23-14
- complex 26-6
- istreambuf_iterator 24-25
- iterator_category 24-26
- locale 22-8
- ostreambuf_iterator 24-26
- type_info 18-15
- valarray 26-17
- operator%, valarray 26-16
- operator%=
 - gslice_array 26-24
 - indirect_array 26-27
 - mask_array 26-25
 - slice_array 26-21
 - valarray 26-14
- operator&
 - bitset 23-15
 - valarray 26-16
- operator&&, valarray 26-16
- operator&=
 - bitset 23-12
 - gslice_array 26-24
 - indirect_array 26-27
 - mask_array 26-25
 - slice_array 26-21
 - valarray 26-14
- operator(), locale 22-8
- operator*
 - auto_ptr 20-17
 - back_insert_iterator 24-18
 - complex 26-5
 - front_insert_iterator 24-19
 - insert_iterator 24-21
 - istreambuf_iterator 24-24
 - ostreambuf_iterator 24-26
 - reverse_bidirectional_iterator 24-14
 - reverse_iterator 24-16
 - valarray 26-16
- operator*=
 - complex 26-5
 - gslice_array 26-24
 - indirect_array 26-27
 - mask_array 26-25
 - slice_array 26-21
 - valarray 26-14
- operator+
 - basic_string 21-22
 - complex 26-5
 - reverse_iterator 24-16
 - valarray 26-13, 16
- operator++
 - back_insert_iterator 24-18
 - front_insert_iterator 24-20
 - insert_iterator 24-21

```

istreambuf_iterator 24-24
ostreambuf_iterator 24-26
reverse_bidirectional_iterator 24-14
reverse_iterator 24-16
operator+=
  basic_string 21-12
  complex 26-5
  gslice_array 26-24
  indirect_array 26-27
  mask_array 26-25
  slice_array 26-21
  valarray 26-14
operator-
  complex 26-5
  valarray 26-13, 16
operator--
  reverse_bidirectional_iterator 24-14
  reverse_iterator 24-17
operator==
  complex 26-5
  gslice_array 26-24
  indirect_array 26-27
  mask_array 26-25
  slice_array 26-21
  valarray 26-14
operator->, auto_ptr 20-17
operator/, valarray 26-16
operator/=
  complex 26-5
  gslice_array 26-24
  indirect_array 26-27
  mask_array 26-25
  slice_array 26-21
  valarray 26-14
operator< 26-18
  basic_string 21-23
  map 23-32
  multimap 23-34
  multiset 23-37
  pair 20-3
  queue 23-23
  set 23-36
  valarray 26-17
  vector 23-26
  vector<bool> 23-29
operator<< 22-8, 27-21
  basic_ostream 27-46
  basic_string 21-25
  bitset 23-14/15
  complex 26-6
  valarray 26-16
operator<<=
  bitset 23-12
  gslice_array 26-24
  indirect_array 26-27
  mask_array 26-25
  slice_array 26-21
  valarray 26-14
operator<= 20-3
  basic_string 21-24
  valarray 26-17
operator=
  auto_ptr 20-17
  back_insert_iterator 24-18
  bad_alloc 18-14
  bad_cast 18-16
  bad_exception 18-18
  bad_typeid 18-17
  basic_string 21-10
  exception 19-2
  front_insert_iterator 24-19
  gslice_array 26-24
  indirect_array 26-26
  insert_iterator 24-20
  mask_array 26-25
  ostreambuf_iterator 24-26
  slice_array 26-21
  type_info 18-16
  valarray 26-12
operator==
  basic_string 21-22
  bitset 23-14
  complex 26-6
  istream_iterator 24-22
  istreambuf_iterator 24-24
  locale 22-8
  map 23-32
  multimap 23-34
  multiset 23-37
  ostreambuf_iterator 24-26
  pair 20-3
  queue 23-23
  reverse_bidirectional_iterator 24-15
  reverse_iterator 24-17
  set 23-36
  stack 23-24
  type_info 18-15
  valarray 26-17
  vector 23-26
  vector<bool> 23-29
operator> 20-3, 26-18
  basic_string 21-24
  valarray 26-17
operator>= 20-3
  basic_string 21-24
  valarray 26-17
operator>> 22-8
  basic_istream 27-36
  basic_string 21-25
  bitset 23-14/15
  complex 26-6
  valarray 26-16
operator>>=
  bitset 23-13
  gslice_array 26-24
  indirect_array 26-27
  mask_array 26-25
  slice_array 26-21
  valarray 26-14
operator[]
  basic_string 21-12
  map 23-32
  valarray 26-13
operator^
  bitset 23-15
  valarray 26-16
operator^=
  bitset 23-12
  gslice_array 26-24
  indirect_array 26-27
  mask_array 26-25
  slice_array 26-21
  valarray 26-14
operator|
  bitset 23-15
  valarray 26-16
operator|=
  bitset 23-12
  gslice_array 26-24
  indirect_array 26-27
  mask_array 26-25
  slice_array 26-21

```


- valarray 26-14
- operator| |, valarray 26-16
- operator~
 - bitset 23-13
 - valarray 26-13
- operator 13-18
- operator-function-id 13-18
- opfx, basic_ostream 27-44
- optimization of temporary —see elimination of temporary
- OR
 - operator, bitwise exclusive 5-21
 - operator, bitwise inclusive 5-21
 - operator, logical 5-21
 - operator, side effects and logical 5-21
- order
 - of argument evaluation 5-5
 - of argument evaluation, unspecified 5-5
 - of base class initialization 12-12
 - of destruction of temporary 12-3
 - of evaluation new, unspecified 5-16
 - of evaluation of expression 5-1
 - of evaluation of function arguments, implementation-defined 8-12
 - of evaluation, unspecified 3-9, 5-1
 - of execution, base class constructor 12-2
 - of execution, base class destructor 12-6
 - of execution, constructor and array 12-10
 - of execution, constructor and static objects 12-11
 - of execution, destructor 12-6
 - of execution, destructor and array 12-6
 - of execution, member constructor 12-2
 - of execution, member destructor 12-6
 - of function call evaluation, unspecified 5-5
 - of initialization 3-9, 10-2
 - of member initialization 12-12
 - of virtual base class initialization 12-12
- osfx, basic_ostream 27-44
- <ostream> 27-31
- ostream 27-4, 31
- ostreambuf_iterator 24-25
 - equal 24-26
 - iterator_category 24-26
 - operator!= 24-26
 - operator* 24-26
 - operator++ 24-26
 - operator= 24-26
 - operator== 24-26
 - ostreambuf_iterator 24-25
 - ostreambuf_iterator 24-25
- ostream_iterator 24-22
- ostream_iterator 27-51
- ostrstream D-10
 - :pcount D-11
 - freeze D-10
 - ostrstream D-10
 - ostrstream D-10
 - rdbuf D-10
 - str D-11
- out_of_range 19-3, 21-8, 23-11/14
- out_of_range 19-4
 - out_of_range 19-4
- output_iterator 24-11
 - iterator_category 24-11
- output_iterator_tag 24-11
- overflow 5-1
 - undefined 5-1
- overflow
 - basic_filebuf 27-62
 - basic_streambuf 27-30
 - basic_stringbuf 27-54
 - strstreambuf D-6
- overflow_error 19-4, 23-11, 14
 - overflow_error 19-4
 - overflow_error 19-4
- overflow
 - resolution 13-4
 - resolution and conversion 13-11
 - resolution and default argument 13-10
 - resolution and ellipsis 13-10
 - resolution and member function 13-5
 - resolution and pointer conversion 13-17
 - resolution contexts 13-4
 - resolution, template 14-26, 29
- overflow keyword anachronism C-11
- overflowed
 - assignment and initialization 12-10
 - assignment operator 13-19
 - binary operator 13-19
 - declaration 13-1
 - decrement operator 13-20
 - function, address of 5-13, 13-17
 - function ambiguity detection 13-4
 - function call operator 13-20
 - function call resolution —see also argument matching, overload resolution
 - function declaration matching 13-3
 - function, linkage specification 7-24
 - function name 13-1
 - increment operator 13-20
 - member access operator 13-20
 - member name 9-4
 - name and friend declaration 11-5
 - operator 13-18
 - operator 5-1
 - operator 13-18
 - operator and default argument 13-19
 - operator, inheritance of 13-19
 - subscripting operator 13-20
 - unary operator 13-19
- overloading 8-8, 9-2, 13-1
 - and access 13-4
 - and const 13-2
 - and default initializers 13-2
 - and delete 3-11
 - and derived class 13-3
 - and enum 13-2
 - and equivalent parameter declarations 13-1
 - and linkage 14-28
 - and pointer versus array 13-2
 - and return type 13-1
 - and scope 13-3
 - and specialization 14-28
 - and static 13-1
 - and typedef 13-1
 - and volatile 13-2
 - delete, extension to C C-2
 - extension to C C-1
 - new, extension to C C-2
 - operator identities and 13-19
 - postfix ++ and -- 13-20
 - prefix ++ and -- 13-20
 - resolution and access control 10-4
 - resolution, template function 14-22
 - restriction 13-19
 - subsequence rule 13-15
 - versus name hiding 13-3
- overloader, final 10-6

P

pair 20-3

- operator< 20-3
- operator== 20-3
- parameter 1-2, 8-13
 - adjustment, array 8-9
 - adjustment, function 8-9
 - declaration 8-8/9
 - example, unnamed 8-13
 - initialization 5-5
 - list example, variable 8-10
 - list, variable 5-5, 8-8
 - reference 8-5
 - scope of 3-3
 - void 8-8
- parameter type list* 8-9
- parameter-declaration* 8-8
- parameterized type —see template
- parameters
 - macro 16-5
 - to main() 3-8
 - to main(), implementation-defined 3-8
- parentheses
 - and ambiguity 5-14
 - in declaration 8-3/4
- parenthesized expression 5-3
- partial_sort 25-19
- partial_sort_copy 25-20
- partial_sum 26-29
- partition 25-18
- pbackfail
 - basic_filebuf 27-61
 - basic_streambuf 27-29
 - basic_stringbuf 27-54
 - strstreambuf D-7
- pbase, basic_streambuf 27-27
- pbump, basic_streambuf 27-27
- :pcount, ostrstream D-11
- pcount, strstreambuf D-6
- peek, basic_istream 27-41
- period 17-6
- phases, translation 2-1
- placement
 - of object, destructor and 12-7
 - syntax, new 5-15
- plus 20-5
- pm-expression* 5-17
- POD-struct 9-1
- point
 - of declaration class name 9-3
 - of declaration enumerator 3-5
 - of declaration name 3-5
 - of definition, enumerator 7-12
 - of error checking 14-4
 - of instantiation 14-9
 - promotion, floating 4-3
 - type, floating 3-15
- pointer
 - see also void*
 - arithmetic 5-18
 - cast, integer to 5-10
 - comparison 5-20
 - comparison, implementation defined 5-20
 - comparison, undefined 5-19/20
 - comparison, void* 5-20
 - constant, null 4-3/4
 - conversion 4-3
 - conversion, array 4-1
 - conversion, overload resolution and 13-17
 - declaration 8-4
 - declarator * 8-4
 - example, constant 8-4
 - integer conversion, implementation defined 5-10
 - null 5-20
 - subtraction, implementation defined 5-19
 - terminology 3-17
 - to abstract class 10-9
 - to bit-field restriction 9-11
 - to function cast 5-10
 - to function cast, undefined 5-10
 - to function comparison 5-20
 - to function conversion 4-2
 - to integer cast 5-10
 - to member 3-17, 5-17
 - to member anachronism, cast of C-12
 - to member cast 5-10/11
 - to member constant expression 5-12
 - to member conversion 4-4
 - to member conversion anachronism C-12
 - to member declarator ::* 8-6
 - to member example 8-6
 - to member, extension to C C-2
 - to member function 5-18
 - to member function, undefined bound C-12
 - to member operator 5-17
 - to member void* conversion 4-4
 - type 3-16
 - type extension to C, void* C-1
 - value, null 4-3
 - value, null member 4-4
 - versus array, overloading and 13-2
 - zero 4-3, 5-20
- pointer_to_binary_function 20-10
- pointer_to_unary_function 20-9
- polar, complex 26-7
- polymorphic
 - class 10-6
 - type 10-6
- pop, priority_queue 23-24
- pop_heap 25-26
- POS_T 27-2
- postfix
 - ++ and -- 5-7
 - ++ and --, overloading 13-20
 - expression 5-4
- potential scope 3-1
- pow 26-18, 31
 - complex 26-7
- pptr, basic_streambuf 27-27
- pragma directive 16-8
- #pragma 16-8
- precedence of operator 5-1
- precision, ios_base 27-15
- prefix
 - ++ and -- 5-13
 - ++ and --, overloading 13-20
 - L 2-7/8
- preprocessing 16-1
 - directive 16-1
- preprocessing-op-or-punc* 2-4
- preprocessing-token* 2-2
- preprocessor, macro 16-1
- prev_permutation 25-28
- primary
 - expression 5-3
 - template 14-16
- priority_queue 23-23
- pop 23-24
- priority_queue 23-23
- priority_queue 23-23
- push 23-24
- private 11-1
 - base class 11-2
- program 3-7

- environment 3–8
- ill-formed 1–2
- start 3–8/9
- startup 17–16, 18
- termination 3–9
- termination and destructor 12–7
- well-formed 1–3
- promotion
 - floating point 4–3
 - integral 4–2, 5–5
 - to int, bool 4–2
- protected 11–1
 - extension to C C–2
 - member access 11–6
- protection 17–20
 - see access control
- proxy, `istreambuf_iterator` 24–23
- `ptrdiff_t` 5–19
 - implementation defined type of 5–19
- `ptr_fun` 20–10
- ptr-operator* 8–1
- `pubimbue`, `basic_streambuf` 27–25
- public 11–1
 - base class 11–2
- `pubseekoff`, `basic_streambuf` 27–25
- `pubseekpos`, `basic_streambuf` 27–25
- `pubsetbuf`, `basic_streambuf` 27–25
- `pubsync`, `basic_streambuf` 27–25
- punctuators 2–4
- pure
 - specifier 9–3
 - virtual destructor 12–6
 - virtual function 10–9
 - virtual function call, undefined 10–10
 - virtual function definition 10–9
 - virtual function example 10–9
- pure-specifier* 9–3
- `push`, `priority_queue` 23–24
- `push_heap` 25–26
- put
 - `basic_ostream` 27–49
 - `money_put` 22–30
 - `num_put` 22–20
 - `time_put` 22–27
- `putback`, `basic_istream` 27–41
- `pword`, `ios_base` 27–16

Q

- qualification
 - conversions 4–2
 - explicit 3–5, 7–14
- qualified
 - id 5–3
 - name 7–14
- qualified-id* 5–3
- question mark 2–7
- `<queue>` 23–9
- queue 23–22
 - `operator<` 23–23
 - `operator==` 23–23
- quote
 - double 2–7
 - single 2–7

R

- `random_access_iterator` 24–11
- `distance_type` 24–12
- `iterator_category` 24–11

- `value_type` 24–12
- `random_access_iterator_tag` 24–11
- `random_shuffle` 25–18
- range of types, implementation-defined 2–5
- `range_error` 19–4
 - `range_error` 19–4
 - `range_error` 19–4
- rank, conversion 13–13
- `rbegin`, `basic_string` 21–10
- `rdbuf`
 - `basic_ifstream` 27–64
 - `basic_ios` 27–18
 - `basic_istream` 27–57
 - `basic_ofstream` 27–65
 - `basic_ostringstream` 27–58
 - `istream` D–9
 - `ostream` D–10
- `rdstate`, `basic_ios` 27–18
- `read`, `basic_istream` 27–41
- `readsome`, `basic_istream` 27–41
- real 26–5
 - complex 26–6
- `realloc` 20–18
- recursive function call 5–5
- redefinition
 - enumerator 7–12
 - `typedef` 7–6
- recrancy 17–20
 - implementation-defined behavior 17–20
- reference 3–16
 - and argument passing 8–19
 - and return 8–19
 - argument 5–5
 - assignment 8–19
 - assignment to 5–22
 - binding 8–19
 - call by 5–5
 - cast 5–9, 11
 - `cast`, `reinterpret_cast`, 5–11
 - `cast`, `static_cast`, 5–9
 - `const` 8–20
 - declaration 8–5
 - declaration, extern 8–19
 - declarator & 8–5
 - expression 5–2
 - initialization 8–6, 19
 - member initialization 12–12
 - null 8–6
 - operand 5–1
 - parameter 8–5
 - restriction 8–6
 - `sizeof` 5–13
 - type, extension to C C–1
- reference-compatible 8–19
- reference-related 8–19
- region, declarative 3–1
- register
 - declaration 7–3
 - restriction 7–3
- `reinterpret cast` 5–10
- `reinterpret_cast`
 - `lvalue cast` 5–10
 - `reference cast` 5–11
- relational operator 5–19
- relational-expression* 5–19
- `release`, `auto_ptr` 20–17
- remainder operator —see modulus operator
- remove 25–15
 - `basic_string` 21–15
 - list 23–21
- `remove_copy` 25–15

- remove_copy_if 25–15
 - remove_if 25–15
 - rend, basic_string 21–10
 - replace 25–14
 - basic_string 21–15
 - replace_copy 25–14
 - replace_copy_if 25–14
 - replace_if 25–14
 - replacement
 - function 17–2
 - macro 16–4
 - representation
 - object 3–14
 - value 3–14
 - required behavior 17–2, 4
 - Requirements 17–3
 - Allocator 20–1
 - Container 23–1
 - Iterator 24–1
 - Numeric type 26–1
 - raise 15–3
 - rescanning and replacement 16–6
 - reserve
 - basic_string 21–11
 - vector 23–27
 - reserved
 - function 17–2
 - identifier 2–4
 - name 17–17
 - word —see keyword
 - reset
 - auto_ptr 20–17
 - bitset 23–13
 - resetiosflags 27–50
 - resize
 - basic_string 21–11
 - deque 23–17
 - list 23–20
 - vector 23–27
 - resolution
 - and conversion, overload 13–11
 - and default argument, overload 13–10
 - and ellipsis, overload 13–10
 - and member function, overload 13–5
 - and pointer conversion, overload 13–17
 - argument matching —see overload
 - overload 13–4
 - overloaded function call resolution —see also argument matching, overload
 - overloading —see overload resolution
 - resolution overloading —see overload
 - scoping ambiguity 10–4
 - template function overloading 14–22
 - template name 14–3
 - template overload 14–26, 29
 - restriction 17–19/21
 - address of bit-field 9–11
 - anonymous union 9–11
 - auto 7–3
 - bit-field 9–11
 - constructor 12–1/2
 - copy assignment operator 12–19
 - copy constructor 12–18
 - destructor 12–6/7
 - enumerator 7–12
 - extern 7–3
 - local class 9–14
 - member of class type 12–12
 - overloading 13–19
 - pointer to bit-field 9–11
 - reference 8–6
 - register 7–3
 - static 7–3
 - static member local class 9–10
 - union 9–11, 12–2
 - restrictions, operator overloading 13–18
 - rethrow 15–3
 - return
 - type 8–9
 - type conversion 6–5
 - type, overloading and 13–1
 - return 6–5
 - constructor and 6–5
 - from main() 3–9
 - reference and 8–19
 - statement —see also return
 - reverse 25–17
 - list 23–22
 - reverse_bidirectional_iterator 24–13
 - conversion 24–14
 - operator* 24–14
 - operator++ 24–14
 - operator-- 24–14
 - operator== 24–15
 - reverse_bidirectional_iterator 24–14
 - reverse_bidirectional_iterator 24–14
 - reverse_copy 25–17
 - reverse_iterator 24–15
 - conversion 24–16
 - operator* 24–16
 - operator+ 24–16
 - operator++ 24–16
 - operator-- 24–17
 - operator== 24–17
 - reverse_iterator 24–16
 - reverse_iterator 24–16
 - rfind, basic_string 21–18
 - right
 - shift, implementation defined 5–19
 - shift operator 5–19
 - right 27–21
 - rotate 25–17
 - rotate_copy 25–17
 - rounding 4–3
 - rule, one-definition 3–3
 - rules
 - for *conditions* 6–2
 - summary, scope 3–6
 - run-time initialization 3–9
 - runtime_error 19–4
 - runtime_error 19–4
 - runtime_error 19–4
 - rvalue 3–18
 - lvalue conversion to 4–1
- ## S
- sbumpc, basic_streambuf 27–25
 - scan_is
 - ctype 22–11
 - ctype<char> 22–15
 - scan_not
 - ctype 22–11
 - ctype<char> 22–15
 - s-char* 2–8
 - s-char-sequence* 2–8
 - scientific 27–21
 - scope 3–1
 - anonymous union at namespace 9–11
 - class 3–4
 - destructor and exit from 6–5

- exception declaration 3-3
- file 17-17
- function 3-4
- function prototype 3-4
- global 3-4
- global namespace 3-4
- iteration-statement* 6-3
- local 3-3
- macro definition 16-6
- namespace 3-4
- of class definition 9-2
- of class name 9-2
- of declaration in `for` 6-4
- of default argument 8-12
- of delete example 12-9
- of enumerator class 7-13
- of friend class 11-5
- of friend declaration 3-4
- of friend function 11-5
- of label 3-4, 6-1
- of local class 9-13
- of member initializer 12-13
- of name 3-3
- of nested class 9-12
- of nested class anachronism C-12
- of nested type name 9-14
- of parameter 3-3
- overloading and 13-3
- potential 3-1
- resolution operator 3-4/5, 5-3, 9-6, 10-1, 9
- resolution operator `::` 3-5
- resolution operator example 10-4
- resolution operator use 9-10
- rules summary 3-6
- selection-statement* 6-2
- scoping
 - ambiguity resolution 10-4
 - and `new` 5-14
- search 25-12
- `seekdir, ios_base` 27-13
- `seekg, basic_istream` 27-42
- `seekoff`
 - `basic_filebuf` 27-62
 - `basic_streambuf` 27-27
 - `basic_stringbuf` 27-54
 - `strstreambuf` D-7
- `seekp, basic_ostream` 27-44
- `seekpos`
 - `basic_filebuf` 27-63
 - `basic_streambuf` 27-28
 - `basic_stringbuf` 27-55
 - `strstreambuf` D-8
- selection statement 6-2
- selection-statement* 6-2
- scope 6-2
- semantics, class member 5-6
- separate
 - compilation 2-1
 - translation 2-1
- sequence
 - implicit conversion 4-1
 - statement 6-1
- sequencing operator —see comma operator
- `<set>` 23-30
- `set` 23-34
 - `bitset` 23-13
 - operator`<` 23-36
 - operator`==` 23-36
- `setbase` 27-50
- `setbuf`
 - `basic_filebuf` 27-62
 - `basic_streambuf` 27-27
 - `streambuf` D-9
 - `strstreambuf` D-9
- `set_difference` 25-24
- `setf, ios_base` 27-14
- `setfill` 27-50
- `setg, basic_streambuf` 27-27
- `set_intersection` 25-24
- `setiosflags` 27-50
- `setjmp` 17-17
- `<setjmp.h>` D-1
- `setlocale` 17-6, 22-9
- `set_new_handler` 17-18, 18-15
- `setp, basic_streambuf` 27-27
- `setprecision` 27-51
- `setstate, basic_ios` 27-19
- `set_symmetric_difference` 25-25
- `set_terminate` 17-18, 18-19
- `set_unexpected` 17-18, 18-19
- `set_union` 25-23
- `setw` 27-51
- `sgetc, basic_streambuf` 27-26
- `sgetn, basic_streambuf` 27-26
- shift operator —see left shift operator, right shift operator
- `shift, valarray` 26-15
- shift-expression* 5-19
- short
 - type 3-15
 - type specifier 7-9
 - type, unsigned 3-15
 - typedef and 7-2
- `showbase` 27-20
- `showmanyc`
 - `basic_filebuf` 27-61
 - `basic_streambuf` 27-28, 61
- `showpoint` 27-20
- `showpos` 27-20
- side
 - effect 1-5
 - effects 5-1
 - effects and comma operator 5-23
 - effects and logical AND operator 5-21
 - effects and logical OR operator 5-21
- sign
 - of bit-field, implementation-defined 9-11
 - of char, implementation-defined 3-15
- sign* 2-8
- `<signal.h>` D-1
- signature 1-2
- signed
 - char type 3-15
 - character 3-15
 - typedef and 7-2
 - unsigned integer conversion 4-3
- simple-escape-sequence* 2-6
- simple-type-specifier* 7-9
- `sin` 26-18, 31
 - complex 26-7
- single
 - precision arithmetic, extension to C C-1
 - quote 2-7
- `sinh` 26-31
 - complex 26-7
- `sink` 26-18
- size
 - `basic_string` 21-11
 - `bitset` 23-14
- sizeof
 - array 5-13
 - class object 5-13
 - empty class 9-1

- expression, implementation defined 5–14
- expression, implementation defined type of 2–5
- integral type, implementation-defined 3–15
- operator 5–12/13
- reference 5–13
- string 2–9
- type, implementation-defined 3–15
- size_t 5–14
 - implementation defined type of 5–14
- skipws 27–20
- slice 26–19
 - length 26–20
 - slice 26–19
 - slice 26–19
 - start 26–20
 - stride 26–20
- slice_array 26–20
 - fill 26–21
 - operator%= 26–21
 - operator&= 26–21
 - operator*= 26–21
 - operator+= 26–21
 - operator-= 26–21
 - operator/= 26–21
 - operator<<= 26–21
 - operator= 26–21
 - operator>>= 26–21
 - operator^= 26–21
 - operator|= 26–21
 - slice_array 26–20
 - slice_array 26–20
- smanip 27–50
 - implementation-defined 27–50
- snextc, basic_streambuf 27–25
- sort 25–19
 - list 23–22
- sort_heap 25–26
- source
 - file 2–1, 17–16, 18
 - file inclusion 16–3
- space, white 2–2
- special member function —see also constructor, destructor,
 - inline function, user-defined conversion, virtual function
- specialization 14–9
 - instantiation and 14–13
 - overloading and 14–28
 - template 14–15
- specialized
 - class 14–9, 16
 - function 14–9
- specification, template argument 14–22
- specifier
 - access —see access specifier
 - auto 7–3
 - declaration 7–2
 - elaborated type 3–5
 - explicit 7–5
 - friend 7–7
 - friend 17–20
 - function 7–5
 - inline 7–5
 - missing storage class 7–3
 - static 7–3
 - storage class 7–3
 - type —see type specifier
 - typedef 7–6
 - virtual 7–5
- splice, list 23–21
- sputbackc, basic_streambuf 27–26
- sputc, basic_streambuf 27–26
- sputn, basic_streambuf 27–26
- sqrt 26–18, 31
 - complex 26–7
- <sstream> 27–51
- stable_partition 25–18
- stable_sort 25–19
- stack unwinding 15–3
- <stack> 23–10
- stack 23–24
 - operator== 23–24
- Standard
 - C library 17–1, 6, 17–15/C–13, C–15
 - library, C++ 17–1, 18/19, 21
- standard
 - conversion 4–1
 - headers 2–5
- start, program 3–8/9
- start
 - gslice 26–23
 - slice 26–20
- startup, program 17–16, 18
- state, object 17–2
- statement 6–1
 - see also return, return
 - break 6–5
 - compound 6–1
 - continue 6–5
 - continue in for 6–4
 - declaration 6–6
 - declaration in for 6–4
 - declaration in switch 6–3
 - do 6–3/4
 - empty 6–1
 - expression 6–1
 - extension to C declaration C–1
 - for 6–3/4
 - goto 6–1, 5
 - if 6–2
 - iteration 6–3
 - jump 6–5
 - labeled 6–1
 - null 6–1
 - selection 6–2
 - sequence 6–1
 - switch 6–2/3, 5
 - while 6–3/4
 - {}, block 6–1
- statement 6–1
- state_type, ios_traits 27–8
- static
 - NTBS 17–6
 - NTMBS 17–6
 - NTWCS 17–7
 - cast 5–9
 - type 1–2
- static
 - class member 3–10
 - data member 9–9
 - destruction of local 6–6
 - initialization, local 6–6
 - linkage of 3–7, 7–3, 24
 - local object 3–10
 - member 9–9
 - member declaration 3–2
 - member definition 9–10
 - member example 9–10
 - member function 9–9/10
 - member initialization 9–10
 - member local class restriction 9–10
 - member, template and 14–31
 - member, type of 5–12, 9–10
 - member use 9–9

- object, destructor 3–9
- object initialization 3–9, 8–14
- objects order of execution, constructor and 12–11
- overloading and 13–1
- restriction 7–3
- specifier 7–3
- variable, template and 14–31
- static_cast
 - conversion to enumeration type 5–10
 - lvalue cast 5–9
 - reference cast 5–9
- std, namespace 17–17
- <stdarg.h> D–1
- __STDC__ 16–9
 - implementation-defined 16–9
- <stddef.h> 2–7/D–1
- <stdexcept> 19–1
- <stdio.h> D–1
- <stdlib.h> D–1
- storage
 - allocation new 5–14
 - class 3–1
 - class declaration 7–3
 - class specifier 7–3
 - class specifier, missing 7–3
 - duration 3–9
 - duration, auto 3–10
 - duration, class member 3–11
 - duration, dynamic 3–10, 5–14
 - duration, local object 3–10
 - management —see new, delete
 - of array 8–8
- str
 - basic_istream 27–57
 - basic_ostringstream 27–58
 - basic_stringbuf 27–53
 - istream D–9
 - ostream D–11
 - strstreambuf D–6
- strchr 21–29
- <streambuf> 27–22
- streambuf 27–22
 - setbuf D–9
- streamoff 27–7
 - implementation-defined 27–7
- streampos, implementation-defined 27–7
- streamsize 27–7
- strftime 22–28
- stride
 - gslice 26–23
 - slice 26–20
- string
 - concatenation 2–8
 - distinct 2–8
 - literal 2–8
 - literal concatenation, undefined 2–8
 - literal, implementation-defined 2–8
 - literal, type of 2–8
 - literal, undefined change to 2–8
 - literal, wide 2–8
 - null-terminated byte 17–6
 - null-terminated multibyte 17–6
 - null-terminated wide-character 17–6
 - sizeof 2–9
 - terminator 0 2–9
 - type of 2–8
- <string> 21–1
- string 21–25
 - assign 21–26
 - char_in 21–26
 - char_out 21–26
 - compare 21–26
 - copy 21–27
 - eos 21–26
 - eq 21–26
 - is_del 21–26
 - length 21–27
 - lt 21–26
 - ne 21–26
- stringbuf 27–51
- string_char_traits 21–3
 - assign 21–4
 - char_in 21–4
 - char_out 21–4
 - compare 21–4, 21
 - copy 21–5
 - eos 21–4, 11, 17
 - eq 21–4, 18/20
 - is_del 21–4
 - length 21–4, 9/10, 12/14, 16, 18/23
 - lt 21–4
 - ne 21–4
- string_char_traits<char> 21–25
- string_char_traits<wchar_t> 21–27
- <string.h> D–1
- string-literal* 2–8
- strlen 21–27/D–5, D–10
- strpbrk 21–29
- strrchr 21–30
- strstr 21–30
- strstreambuf D–3
 - freeze D–6
 - overflow D–6
 - pbackfail D–7
 - pcount D–6
 - seekoff D–7
 - seekpos D–8
 - setbuf D–9
 - str D–6
 - strstreambuf D–4
 - strstreambuf D–4
 - underflow D–7
 - ~strstreambuf D–6
 - ~strstreambuf, strstreambuf D–6
- struct
 - class versus 9–1
 - default member access 9–1
 - initialization 8–16
 - type specifier 7–10
- structure 9–1
 - tag —see class name
- sub-object 1–4
 - lattice —see DAG
- subscripting
 - example 8–7
 - explanation 8–7
 - operator 5–4, 13–18
 - operator, overloaded 13–20
- subsequence rule, overloading 13–15
- substr, basic_string 21–21
- subtraction
 - implementation defined pointer 5–19
 - operator 5–18
- suffix
 - E 2–8
 - F 2–8
 - L 2–6, 8
 - U 2–6
 - f 2–8
 - l 2–6, 8
 - u 2–6
- sum, valarray 26–15

summary
 compatibility with C C-1
 compatibility with ISO C C-2
 scope rules 3-6
 syntax A-1
 sungetc, basic_streambuf 27-26
 swap 25-13
 basic_string 21-17
 swap_ranges 25-13
 switch
 statement 6-2/3, 5
 statement, declaration in 6-3
 sync
 basic_filebuf 27-63
 basic_istream 27-41
 basic_streambuf 27-28
 synonym 7-18
 type name as 7-6
 syntax
 checking 14-4
 class member 5-6
 explicit instantiation 14-14
 notation 1-3
 summary A-1

T

T*
 distance_type 24-12
 iterator_category 24-12
 valarray operator 26-15
 value_type 24-12
 tan 26-18, 31
 complex 26-7
 tanh 26-18, 31
 complex 26-7
 tellg, basic_istream 27-42
 tellp, basic_ostream 27-44
 template 14-1
 access rules 14-21
 and < 14-2
 and friend 14-31
 and static member 14-31
 and static variable 14-31
 argument 14-19
 argument deduction 14-23
 argument specification 14-22
 class 14-2, 23-11
 definition of 14-1
 function 14-22
 function overloading resolution 14-22
 instantiation 14-9
 linkage 14-9
 member function 14-30
 name injection from 14-9
 name lookup 14-3
 name resolution 14-3
 name, use of 14-5
 overload resolution 14-26, 29
 primary 14-16
 specialization 14-15
 type equivalence 14-21
 template 14-1
template-argument 14-2
template-argument-list 14-2
template-declaration 14-1
template-id 14-2
template-name 14-2
template-parameter 14-17
template-parameter-list 14-1

temporary 12-2
 and declarator initializer 12-3
 constructor for 12-3
 destruction of 12-3
 destructor for 12-3
 elimination of 12-2
 implementation-defined generation of 12-2
 order of destruction of 12-3
 terminate 3-9, 15-7, 18-10, 18/19
 terminate() 15-6
 terminate_handler 17-18, 18-19
 termination
 and destructor, program 12-7
 program 3-9
 terminator 0, string 2-9
 terminology, pointer 3-17
 test, bitset 23-14
 this 5-3
 anachronism, assignment to C-12
 and constructor anachronism C-12
 and destructor anachronism C-12
 pointer—see this
 type of 9-8
 thousands_sep, numpunct 22-21
 throw 15-1
 throw-expression in conditional-expression 5-22
throw-expression 15-1
 throwing, exception 15-2
 throw-point 15-1
 tie, basic_ios 27-18
 time_get 22-24
 date_order 22-25
 do_date_order 22-26
 do_get_date 22-26
 do_get_monthname 22-26
 do_get_time 22-26
 do_get_weekday 22-26
 do_get_year 22-26
 get_date 22-25
 get_monthname 22-25
 get_time 22-25
 get_weekday 22-25
 get_year 22-25
 time_get_byname 22-27
 <time.h> D-1
 time_put 22-27
 do_put 22-28
 put 22-27
 time_put_byname 22-28
 times 20-6
 to
 int, bool promotion 4-2
 rvalue, lvalue conversion 4-1
 to_char_type, ios_traits 27-9
 to_int_type, ios_traits 27-9
 token 2-3, 5
token 2-3
 tolower 22-10
 ctype 22-12
 ctype<char> 22-15
 to_string, bitset 23-14
 to_ulong, bitset 23-13
 toupper 22-10
 ctype 22-11
 ctype<char> 22-15
 transform 25-14
 collate 22-23
 translation
 phases 2-1
 separate 2-1
 unit 17-16/17, 20

- unit 2-1, 3-7
- unit, name and 3-2
- transparent, locale 22-9
- trigraph 2-1/2
- truenam falsename, numpunct 22-21
- truncation 4-3
- try 15-1
- try-block* 15-1
- type 3-1
 - Boolean 3-15
 - Requirements, Numeric 26-1
- ambiguity, declaration 7-2
- arithmetic 3-16
- array 3-16, 8-9
- bitmask 17-5
- char 3-15
- character 3-15
- checking, argument 5-5
- checking, extension to C C-1
- checking of default argument 8-11
- class and 9-1
- completely-defined object 3-14
- compound 3-16
- const 7-7
- conversion, argument 12-3
- conversion, explicit —see casting
- declaration 8-4
- declaration consistency 3-8
- declaration, typedef as 7-6
- definition, class name as 9-1
- destination 8-15
- double 3-16
- dynamic 1-2
- enumerated 3-15, 17-5
- enumeration underlying 7-12
- equivalence 7-6, 9-1
- equivalence, template 14-21
- example of incomplete 3-14
- extension to C reference C-1
- extension to C user-defined C-1
- float 3-16
- floating point 3-15
- function 3-16, 8-8/9
- fundamental 3-15
- generator —see template
- implementation-defined sizeof 3-15
- incomplete 3-14
- incompletely-defined object 3-14
- int 3-15
- integral 3-15
- long 3-15
- long double 3-16
- name 3-18, 8-2
- name as synonym 7-6
- name example 8-2
- name example, nested 9-14
- name, nested 9-14
- name, scope of nested 9-14
- of bit-field 9-11
- of character literal 2-7
- of constructor 12-2
- of conversion 12-4
- of delete 12-8
- of enum 7-12
- of floating point literal 2-8
- of integer literal 2-6
- of integer literal, implementation-defined 2-6
- of new 12-8
- of ptrdiff_t, implementation defined 5-19
- of size_t, implementation defined 5-14
- of sizeof expression, implementation defined 2-5
 - of static member 5-12, 9-10
 - of string 2-8
 - of string literal 2-8
 - of this 9-8
 - pointer 3-16
 - polymorphic 10-6
 - short 3-15
 - signed char 3-15
 - specifier, char 7-9
 - specifier, class 7-10
 - specifier, double 7-9
 - specifier, elaborated 14-5
 - specifier, enum 7-10
 - specifier, float 7-9
 - specifier, int 7-9
 - specifier, long 7-9
 - specifier, short 7-9
 - specifier, struct 7-10
 - specifier, union 7-10
 - specifier, unsigned 7-9
 - specifier, void 7-9
 - specifier, volatile 7-8
 - static 1-2
 - unsigned 3-15
 - unsigned char 3-15
 - unsigned int 3-15
 - unsigned long 3-15
 - unsigned short 3-15
 - void 3-16
 - void* 3-17
 - volatile 7-7
 - wchar_t 3-16
 - wchar_t underlying 3-16
- typedef 3-18
 - and long 7-2
 - and short 7-2
 - and signed 7-2
 - and unsigned 7-2
 - as type declaration 7-6
 - class name 7-6/7, 9-3
 - declaration 3-2
 - enum name 7-7
 - example 7-6
 - overloading and 13-1
 - redefinition 7-6
 - specifier 7-6
- typedef-name* 7-6
- typeid 5-8
- type-id* 8-2
- type-id-list* 15-4
- <typeinfo> 18-15
- type_info 5-8, 18-15
 - before 18-15
 - name 18-16
 - operator!= 18-15
 - operator= 18-16
 - operator== 18-15
 - type_info 18-16
 - type_info 18-16
- type_info::name, implementation-defined 18-16
- typename 14-3/4, 18
- type-parameter* 14-17
- types
 - implementation-defined range of 2-5
 - implemetation-defined 17-5
- type-specifier
 - bool 7-9
 - wchart 7-9
- type-specifier* 7-7

U

- U suffix 2-6
- u suffix 2-6
- uflow, `basic_streambuf` 27-29
- unary
 - expression 5-12
 - minus operator 5-12/13
 - operator 5-12
 - operator, interpretation of 13-19
 - operator, overloaded 13-19
 - plus operator 5-12/13
- unary-expression* 5-12
- `unary_function` 20-5
- `unary_negate` 20-8
- unary-operator* 5-12
- `#undef` 16-6, 17-17
- undefined 5-9, 17-2, 17/19, 18-20, 21-12, 24-23, 25-20, 26-12/18, 22, 27, 27-3, 9
 - arithmetic exception 5-1
 - behavior 1-2
 - bound pointer to member function C-12
 - change to `const` object 7-8
 - change to string literal 2-8
 - `delete` 5-16
 - deleted object 3-11, 5-17
 - division by zero 5-1, 18
 - escape sequence 2-7
 - floating point conversion 4-3
 - function call 5-10/11
 - left shift 5-19
 - member function call 9-7
 - overflow 5-1
 - pointer comparison 5-19/20
 - pointer to function cast 5-10
 - pure virtual function call 10-10
 - string literal concatenation 2-8
 - unrepresentable integral value 4-3
 - value `delete` 5-17
- underflow
 - `basic_filebuf` 27-61
 - `basic_streambuf` 27-28
 - `basic_stringbuf` 27-54
 - `strstreambuf` D-7
- underlying
 - type, enumeration 7-12
 - type, `wchar_t` 3-16
- underscore
 - character 17-17
 - character `_` 2-4
 - in identifier `_` 2-4
- unexpected 18-19
- `unexpected()` 15-7
- `unexpected_handler` 17-18, 18-18
- `unget, basic_istream` 27-41
- uninitialized variable, indeterminate 8-14
- `uninitialized_copy` 20-15
- `uninitialized_fill` 20-16
- `uninitialized_fill_n` 20-16
- union 3-16, 9-11
 - access control, anonymous 9-11
 - anonymous 9-11
 - at namespace scope, anonymous 9-11
 - class versus 9-1
 - constructor 9-11
 - default member access 9-1
 - destructor 9-11
 - extension to C anonymous C-1
 - global anonymous 9-11
 - initialization 8-18, 9-11
 - member function 9-11
 - restriction 9-11, 12-2
 - restriction, anonymous 9-11
 - type specifier 7-10
- unique 25-16
 - list 23-22
- `unique_copy` 25-16
- unit, translation 17-16/17, 20
- unknown argument type 8-8
- unnamed
 - bit-field 9-11
 - class 7-7
 - object 12-2
 - parameter example 8-13
- unqualified-id* 5-3
- unrepresentable integral value, undefined 4-3
- `unsetf, ios_base` 27-15
- unsigned
 - arithmetic 3-16
 - `char` type 3-15
 - `int` type 3-15
 - integer conversion, signed 4-3
 - literal 2-6
 - `long` type 3-15
 - `short` type 3-15
 - type 3-15
 - type specifier 7-9
 - `typedef` and 7-2
- unsigned-suffix* 2-6
- unspecified 18-11/13, 15, 21-8, 26-15, 27-9, 27-54/D-7
 - address of member function 17-20
 - argument to constructor 5-16
 - behavior 1-2
 - constructor and `new` 5-16
 - destructor call 6-6
 - order of argument evaluation 5-5
 - order of evaluation 3-9, 5-1
 - order of evaluation `new` 5-16
 - order of function call evaluation 5-5
- unwinding, stack 15-3
- `upper_bound` 25-21
- uppercase 17-6, 17
- uppercase 27-20
- use of template name 14-5
- use, locale 22-7
- user-defined
 - conversion 4-1, 5-2, 12-3/4
 - conversion and name hiding 12-5
 - conversion, implicit 12-5
 - conversion, inheritance of 12-5
 - conversion, virtual 12-5
 - type, extension to C C-1
- using-declaration 7-18
- using-directive 7-22
- usual arithmetic conversions 5-2
- <utility> 20-2

V

- `va_end` 17-17
- <valarray> 26-7
- `valarray` 26-10, 23
 - apply 26-15
 - `cshift` 26-15
 - `fill` 26-15
 - `free` 26-15
 - length 26-14
 - `max` 26-18
 - `min` 26-18
 - operator `T*` 26-15
 - operator `!` 26-13

- operator!= 26-17
- operator% 26-16
- operator%= 26-14
- operator& 26-16
- operator&& 26-16
- operator&= 26-14
- operator* 26-16
- operator*= 26-14
- operator+ 26-13, 16
- operator+= 26-14
- operator- 26-13, 16
- operator-= 26-14
- operator/ 26-16
- operator/= 26-14
- operator< 26-17
- operator<< 26-16
- operator<<= 26-14
- operator<= 26-17
- operator= 26-12
- operator== 26-17
- operator> 26-17
- operator>= 26-17
- operator>> 26-16
- operator>>= 26-14
- operator[] 26-13
- operator^ 26-16
- operator^= 26-14
- operator| 26-16
- operator|= 26-14
- operator|| 26-16
- operator~ 26-13
- shift 26-15
- sum 26-15
- valarray 26-11
- valarray 26-11
- ~valarray 26-12
- ~valarray, valarray 26-12
- va_list 17-17
- value
 - call by 5-5
 - delete, undefined 5-17
 - null member pointer 4-4
 - null pointer 4-3
 - of char literal, implementation-defined 2-7
 - of enumerator 7-12
 - of multicharacter literal, implementation-defined 2-7
 - representation 3-14
 - undefined unrepresentable integral 4-3
- value_type 24-12
 - T* 24-12
 - bidirectional_iterator 24-12
 - forward_iterator 24-12
 - input_iterator 24-12
 - random_access_iterator 24-12
- variable
 - argument list 8-8
 - indeterminate uninitialized 8-14
 - parameter list 5-5, 8-8
 - parameter list example 8-10
 - template and static 14-31
- <vector> 23-10
- vector 23-25
 - assign 23-26
 - capacity 23-27
 - erase 23-27
 - insert 23-27
 - operator< 23-26
 - operator== 23-26
 - reserve 23-27
 - resize 23-27
 - vector 23-26
 - vector 23-26
 - vector<bool> 23-28
 - operator< 23-29
 - operator== 23-29
- vertical tab 2-7
- viable function 13-4
- virtual
 - base class 10-2
 - base class DAG 10-3
 - base class dominance 10-5
 - base class initialization 12-12, 18
 - base class initialization, order of 12-12
 - destructor 12-6
 - destructor, pure 12-6
 - function 10-6
 - function access 11-7
 - function call 10-9
 - function call, constructor and 12-15
 - function call, destructor and 12-15
 - function call, undefined pure 10-10
 - function definition 10-7
 - function definition, pure 10-9
 - function example 10-7/8
 - function example, pure 10-9
 - function, pure 10-9
 - member function 17-18, 20
 - user-defined conversion 12-5
- virtual
 - and friend 10-7
 - and multiple inheritance 10-8
 - specifier 7-5
- visibility 3-5
- void
 - parameter 8-8
 - type 3-16
 - type specifier 7-9
- void& 8-5
- void*
 - conversion, pointer to member 4-4
 - pointer comparison 5-20
 - pointer type extension to C C-1
 - type 3-17
- volatile 3-17
 - constructor and 9-9, 12-1
 - destructor and 9-9, 12-6
 - extension to C C-2
 - implementation-defined 7-8
 - member function 9-8
 - operand 5-1
 - overloading and 13-2
 - type 7-7
 - type specifier 7-8

W

- <wchar.h> D-1
- wchart type-specifier 7-9
- wchar_t 2-7/8, 17-6, 21-29, 27-66
 - implementation-defined 3-16
 - type 3-16
 - underlying type 3-16
- wcschr 21-30
- wcslen 21-28
- wcspbrk 21-30
- wcsrchr 21-30
- wcswcs 21-30
- <wctype.h> D-1
- well-formed program 1-3
- werr 27-5
- wfilebuf 27-58

- what
 - bad_alloc 18-14
 - bad_cast 18-16
 - bad_exception 18-18
 - bad_typeid 18-17
 - exception 19-2
 - ios_base::failure 27-12
- while statement 6-3/4
- white
 - space 2-2
 - space 2-3
- wide string literal 2-8
- wide-character 2-7
 - string, null-terminated 17-6
- widen
 - ctype 22-12
 - ctype<char> 22-15
- width, ios_base 22-10, 27-15
- wfstream 27-58
- win 27-5
- wios 27-4, 6
- wistream 27-31
- wistringstream 27-51
- wlog 27-5
- wmemchr 21-31
- wmemcmp 21-28
- wmemcpy 21-28
- wofstream 27-58
- wostream 27-31
- wostringstream 27-51
- wout 27-5
- write, basic_ostream 27-49
- ws 27-36, 42
- wstreambuf 27-22
- wstreamoff 27-7
 - implementation-defined 27-7
- wstreampos 27-7
 - implementation-defined 27-7
- wstring 21-27
 - assign 21-27
 - char_in 21-27
 - char_out 21-28
 - compare 21-28
 - copy 21-28
 - eos 21-27
 - eq 21-27
 - is_del 21-28
 - length 21-28
 - lt 21-27
 - ne 21-27
- wstringbuf 27-51

X

- xalloc, ios_base 27-16
- xsggetn, basic_streambuf 27-28
- xsgputn, basic_streambuf 27-30
- X(X&) —see copy constructor , 17

Z

- zero
 - pointer 4-3, 5-20
 - undefined division by 5-1, 18
 - width of bit-field 9-11