

# Index

- |, operator, 47
- ||, operator, 47, 329
- ++, operator, 407
- flag, *see the flag under the corresponding command*
- name, *see the name under the corresponding letter*
- /flag, *see the flag under the corresponding command*
- 16-bit, 297
- 2038, 49
- 64-bit, 297
- 6x10.h, sample, 71
- 80/20 rule, 163
- 8086, 210, 297, 301, 359
- >>, operator, 47
- [...], 11
- ##, operator, 294
- #, C library, 313
- \$name, *see the name under the corresponding letter*
- %name, *see the name under the corresponding letter*
- &&, operator, 47, 329
- &, operator, 47
- \_, 74
- \_name, *see the name under the corresponding letter*
  
- ABAP, 434
- ABI, *see application binary interface*
- absorption errors, floating-point, 491
- Abstract Windowing Toolkit, 308
- AbstractDatabaseAction.java, sample, 31
- abstraction, 401
  - polymorphic, 406
- abstractness, 348
- AbstractTextSerializer.java, sample, 395
- Access, *see Microsoft Access*
- access control, 420
- access control list, 139
- AccessController, Java class, 141
- access, Unix-specific function, 113, 114, 115, 121
- acct, Unix-specific function, 138
- accuracy, floating-point, 5, 465
- ACE, 275
- ace, sample, 275
- ACL, 138
- ACM Queue, 100
- ACM Turing Award, 469
- acos, function, 477, 496
- acosh, C library, 496
- ActionCopy.java, sample, 409
- ActionSettings.java, sample, 375
- ActionTest.java, sample, 434
- activation record, 265
- active class, 11
- ad hoc polymorphism, 406, 407
- Ada, 434, 499
- adaptability, software, 7
- addi3.c, sample, 413
- Addr.i, sample, 277, 279
- Address Windowing Extensions, 237
- AF\_Unix, Unix-specific identifier, 140
- af\_ZA, 314
- afferent couplings, 344
- AfxLoadLibrary, Win32 SDK, 119

- aggregate data types, 213
- aggregation association, 12
- agile software development, 4, 15, 456
- `aio_write`, Unix-specific function, 136
- AJAX, 308
- algorithm complexity, 173
- alignment restriction, 298, 303
- `AllPermission`, Java class, 142
- `Alloc.c`, sample, 439
- `alloca`, C library, 274
- `alloca`, Unix-specific function, 273, 294
- Alpha, 210
- alternative presentation, 313
- ambiguity, 397
- ambiguity, coupling, 396
- AMD, 13
- `amd.c`, sample, 431
- AMD64, 210
- `amd`, Unix-specific command, 83, 431
- analyzability
  - error, 325
  - software, 7, 325, 351
- annotations, 22, 30, 146
- `announce.c`, sample, 179
- ANSI, 209, 312
- antiregressive activities, 325, 331
- ANTLR, 18
- `Any.cpp`, sample, 26
- AOP, 408
- Apache, 64, 79, 88, 160, 175, 228, 245, 280
- Apache Tomcat, 344
- API, 56, 58, 115, 237, 395, 425, *see also* under the name of the specific API (e.g., Win32)
- API, portability, 308
- `apispy`, Windows-specific command, 160, 161
- application binary interface, 49, 294, 306
- application programming interface, *see* API
- application server, 52
- `ApplicationDispatcher.java`, sample, 85
- `apprentice.c`, sample, 257
- `ar_io.c`, sample, 370
- arbitrary-precision facility, 50
- arch, sample, 301
- architecture, processor, 296
- `Argo.java`, sample, 72
- `ArgoEventPump.java`, sample, 426
- `ArgoParser.java`, sample, 74, 153
- `ArgoSecurityManager.java`, sample, 140
- `args.c`, sample, 417
- `arith.t`, sample, 441
- `arith.y`, sample, 18
- `arithmetic.c`, sample, 84
- ARM-32, 181, 210
- ARM7TDMI, 217
- array, 26
- `ArrayIndexOutOfBoundsException`, Java exception, 75, 107, 359
- `array.h`, sample, 74
- `ArrayList`, Java class, 426
- `art_affine.c`, sample, 479
- ASCII, 309, 428
- ASCII art, 69
- `asin`, function, 496
- aspect-oriented programming, 408
- assembly code, 13, 223, 387
- `assertFalse`, Java method, 434
- `assertNotNull`, Java method, 434
- `assertNull`, Java method, 434
- `assertTrue`, Java method, 434
- `assert`, C library, 445
- assertion, 45, 445, 496, 498
- `AssertionError`, Java exception, 445
- assignment operator, 34, 36
- association navigation, 11
- `ast_module.cpp`, sample, 407
- asymmetric ranges, 26, 100, 402
- asymptotic behavior, 177
- `at.c`, sample, 143
- `atan`, function, 477
- `atanh`, C library, 496
- `atanh`, function, 477
- ATAPI, 159
- `ATM_Addr.cpp`, sample, 35
- atomic operation, 112
- atomic, system call, 24
- atomicity, 92
- attack
  - buffer overflow, 111, 229
  - denial-of-service, 68, 105, 134, 253

- local, 104
  - social engineering, 125
  - SQL injection, 126
  - stack smashing, 111
  - timing, 124
- attractiveness, software, 5
- attributes, class, 22, 30
- AudioPermission, Java class, 142
- AuthPermission, Java class, 142
- auth.c, sample, 57
- AuthenticatorBase.java, sample, 358
- util.c, sample, 83
- autoconf, Unix-specific command, 294, 323
- automount daemon, 83, 431
- average-case complexity, 174
- awd.c, sample, 86
- AWE, 237
- awk, Unix-specific command, 248, 269, 294, 310
- AWT, 308
- AWTPermission, Java class, 142
  
- backdoor, 144
- backup copy, 91
- BackupWrite, Win32 SDK, 137
- bandwidth, 151, 207
- banked memory, 236
- banner.c, sample, 69, 70, 117
- banner, Unix-specific command, 69, 117
- Basic, 27
- basic data types, 209
- basic\_perf.cpp, sample, 68
- bc, Unix-specific command, 477, 488
- bench.cpp, sample, 438
- benign cancellation, 489
- biased, exponent, 474
- big-endian, 298
- big-O notation, 173
- BigDecimal, Java class, 50, 480
- binary file format, 153
- binary search, 173, 177
- bind, Unix-specific command, 188
- bit AND, 47, 212
- bit OR, 47, 212
- bitmapped fit, 253
- bitwise complement, 212
- black-box testing, 433
- blacklisting, 125
- Block Started by Symbol, 229
- blocking, 189
- Boolean, 210, 211
- Boolean AND, 47
- Boolean expressions, 372
- boot sector, 385
- bottom-up analysis, 405
- bottom-up integration, 437
- bpb.h, sample, 299
- branch coverage, 442
- break, allocated memory, 240
- break, keyword, 371
- bridge, 410
- bsd\_video.c, sample, 244
- bsearch.c, sample, 173
- BSS, 229
- bt\_delete.c, sample, 365
- bt\_open.c, sample, 29
- btree.h, sample, 29
- bubble sort, 153
- buddy system, 253
- buffer, 195
- buffer overflow, 75, 106, 115, 128, 229
- buffer overrun, *see* buffer overflow
- BufferedWriter, Java class, 24
- bugs, *see* errors
- builder, 410
- busy-wait, 189
- byte ordering, 29, 298
- byte swapping, 300
- byte, Java keyword, 211
- byte, type, 49
- bytecode, 454
- gzip.cpp, sample, 76
  
- C argument passing convention, 267
- C identifier
  - DBL\_EPSILON, 473
  - DEBUG, 450
  - FE\_DIVBYZERO, 496
  - FE\_INVALID, 496
  - FE\_OVERFLOW, 496

- FE\_UNDERFLOW, 496
- FLT\_EPSILON, 473
- LDBL\_EPSILON, 473
- NDEBUG, 445, 450
- NULL, 59, 424
- SIGFPE, 498, 499
- C library
  - #, 313
  - acosh, 496
  - alloca, 274
  - assert, 445
  - atanh, 496
  - crypt, 136
  - currency\_symbol, 314
  - decimal\_point, 314
  - errno.h, 293
  - errno, 64, 143, 292
  - exec1, 267
  - fclose, 291
  - fgets, 171, 310
  - fgetwc, 310
  - FILE, 388
  - fmod, 477, 496
  - fopen, 291, 394
  - fprintf, 118, 167, 291
  - fputwc, 310
  - frac\_digits, 314
  - free, 37, 136, 256, 274
  - fscanf, 116, 291, 446
  - gets, 116
  - grouping, 314
  - hypot, 482
  - int\_curr\_symbol, 314
  - int\_frac\_digits, 314
  - isalnum, 175, 176, 180
  - isdigit, 175, 291
  - islower, 175
  - isupper, 175, 394
  - lgamma, 496
  - localeconv, 313
  - localeconv, 167
  - log10, 489, 496
  - log1p, 496
  - log2, 496
  - logb, 496
  - main, 433
  - malloc, 36, 45, 76, 136, 143, 229, 238, 239, 240, 254, 255, 256, 258, 260, 299
  - mblen, 310
  - mbstowcs, 310
  - mbtowc, 310
  - memchr, 167
  - memcmp, 180
  - memcpy, 180
  - memset, 136
  - mon\_decimal\_point, 314
  - mon\_grouping, 314
  - mon\_thousands\_sep, 314
  - n\_cs\_precedes, 314
  - n\_sep\_by\_space, 314
  - n\_sign\_posn, 314
  - negative\_sign, 314
  - new, 299
  - p\_cs\_precedes, 314
  - p\_sep\_by\_space, 314
  - p\_sign\_posn, 314
  - perror, 185
  - positive\_sign, 314
  - pow, 484
  - printf, 24, 118, 125, 126, 147, 267, 303, 313, 317, 428, 449
  - putchar, 394
  - qsort, 153
  - rand, 122
  - realloc, 136, 256, 258
  - regexec, 260
  - res\_send, 89
  - scanf, 20, 116
  - setlocale, 313, 318
  - signal.h, 294
  - sin, 180
  - size\_t, 294
  - snprintf, 116, 167
  - sprintf, 116, 167
  - sscanf, 116
  - stdarg.h, 298
  - stdio, 201, 388
  - strcat, 116, 117
  - strchr, 171

- strcmp, 180, 370
- strcol, 294
- strcoll, 315
- strcpy, 115, 116, 117, 130, 394
- strdup, 36
- strftime, 313
- strncat, 116
- strncpy, 116
- strtok, 381
- strtol, 291
- system, 119, 120, 121, 229
- tgamma, 496
- thousands\_sep, 314
- tmpfile, 115, 121, 122
- tmpnam, 121
- toupper, 291
- vfprintf, 167, 168, 294, 298
- vfprintf, 116
- vscanf, 116
- vsprintf, 116
- vsprintf, 116
- wscat, 310
- wscmp, 310
- wscpy, 310
- wcslon, 310
- wcstombs, 310
- wctomb, 310
- wprintf, 310
- wscanf, 310
- see also* function
- C preprocessor, *see* preprocessor
- C preprocessor directive
  - #error, 304
  - #if, 304
  - #pragma, 220
- C++ keyword, *see* keyword
- C++ library, vector, 76
- C++ method, end, 26
- C++ operator, *see* operator
- C99, 33, 180, 280, 313, 429, 481, 495
- C# keyword, *see* keyword
  - decimal, 480
  - internal, 420
  - namespace, 420
  - private, 420
  - protected, 420
  - public, 420, 421
- C# operator, *see* operator
- cache, 194, 233
- cache replacement policies, 199
- cache.c, sample, 199
- Cache.java, sample, 197, 198
- caching, 194, 208
- call, 264, 267
- call by reference, 59
- call graph, 166
- callback, 189
- callback function, 426
- calling convention, 306
- cancellation, 487
- Capability Maturity Model Integration, 4
- capacity, 152, 207
- case, keyword, 328, 367, 447
- cat.c, sample, 152, 184, 313
- cat, Unix-specific command, 152, 184, 269, 310, 316
- catastrophic cancellation, 489
- catch, Java keyword, 67
- catclose, Unix-specific function, 317
- catgets, Unix-specific function, 316, 317
- catopen, Unix-specific function, 316
- cbc.c, sample, 383
- cbo, 336, 409
- cbirt.c, sample, 484
- ccmalloc, 259
- cd9660\_vfsops.c, sample, 33
- CDR\_Array\_Test.cpp, sample, 234
- chain of responsibility, 410
- challenge/response, 123
- changeability, 7, 326, 403
- CharToOem, Win32 SDK, 116
- char, keyword, 310, 312
- char, type, 51, 211, 309
- character device, 242
- character set, 309
- charts, 13
- chat2.pl, sample, 82
- checkPermission, Java method, 140, 141
- checkRead, Java method, 140
- check.cpp, sample, 437

- checkpoint, 91
- CheckStyle, 332, 463
- checksum, 85
- children, 167
- chmod, Unix-specific function, 112, 113
- chroot, Unix-specific function, 133, 147
- chunking, 352
- CIFS, 103
- CIL, 301
- circular buffer, 112
- CISC, 217
- ckjm, 342
- cl/Op, 494
- clarity, code, 153
- class data, 224
- class field, 228
- class, Java keyword, 79
- ClassCastException, Java exception, 426
- ClassDiagramLayouter.java, sample, 401, 423
- client/server, 103
- client, sample, 131
- close, Java method, 66, 67
- close, Unix-specific function, 66, 183, 184, 189, 195, 291
- closed, 466
- closedir, Unix-specific function, 291, 424
- CloseFile, Win32 SDK, 291
- CLR, 163
- cmd, Windows-specific command, 120
- cmds.c, sample, 172
- CMMI, 4
- cmp, Unix-specific command, 242
- cmsMath.c, sample, 484
- CoImpersonateClient, Win32 SDK, 134
- cocoon, sample, 450
- code attributes, *see* quality attributes
- code bloat, 274, 276, 278, 279
- code entropy, 326
- code page, 309
- code portability, *see* portability
- code review, 397
- code standards, *see* guidelines
- CodeGenerator.java, sample, 362
- CodeSwitcher.java, sample, 19, 67
- coding standards, *see* guidelines
- coexistence, 7
- cohesion, 375, 462
- collating sequence, 313
- Collator, Java class, 315
- Collection, Java interface, 214
- Column.java, sample, 328, 416
- ColumnDescriptor.java, sample, 47
- .com, file extension, 120
- command, Windows-specific command, 120
- commented-out code, 362
- comments, 329, 360, 361, 364, 366, 389, 390, 392, 393, 400, 405, 417, 432, 496
- commit point, 92
- commit privilege, 451
- commit windows, 451
- common coupling, 72, 383, 396, 421
- Common Intermediate Language, 301
- common.c, sample, 243
- common.h, sample, 277
- Communications of the ACM*, 100, 462
- CompareString, Win32 SDK, 315
- compare, Java method, 315
- compatibility layer, 295
- compile-time assertions, 428
- compile-time error, 425, 428
- compiler, 302
- compiler bugs, 302
- compiler extensions, 303
- Compiler.java, sample, 382
- compliance, software subcharacteristic, 5
- composition association, 12
- comprehensibility, code's, 352, 403
- compress, sample, 352
- computation errors, 42
- COMSPEC, environment variable, 121
- concurrency problems, 51
- concurrency utilities, 52
- Concurrent Versions System, *see* cvs
- ConcurrentHashMap, Java method, 55
- cond.t, sample, 444
- condition coverage, 442
- condition synchronization, 52
- conditional compilation, 39
- config-chorus.h, sample, 430

- config-linux-common.h, sample, 304
- config.h, 293
- config\_h.SH, sample, 293
- ConfigurationHandler.java, sample, 480
- configure*, Unix-specific command, 293
- connect, Unix-specific function, 186, 187
- conservative garbage collection, 262
- consistency, program's, 353
- const, keyword, 294
- const, type, 228
- constant, portable configuration, 291
- Containers\_T.cpp, sample, 302
- Containers\_T.h, sample, 407
- content coupling, 387, 397
- content-scrambling system, 124
- context handle, 124
- context switch, 52, 182, 193, 205, 228, 377
- ContextConfig.java, sample, 411
- continue, keyword, 371
- control coupling, 380
- conventions, *see* guidelines
- convolution, 176
- copy constructor, 34, 36
- CopyFile, Win32 SDK, 137
- core dump, 281
- correct input, 19
- correctness, software's, 397
- cos, function, 477
- coupling, 336, 377
  - afferent, 344
  - common, 72, 383, 396, 421
  - content, 387, 397
  - control, 380
  - data, 377, 396
  - domain, 409
  - dynamic, 409
  - efferent, 344
  - external, 385, 424
  - stamp, 378
  - static, 409
  - temporal, 381
- coupling between object classes, 336, 408
- cp.c, sample, 266, 267, 268
- cp, sample, 158
- cp*, Unix-specific command, 158, 241
- CPU time, 151, 157
- CPU-bound, 163
- Cray, 441
- CRC, 199, 200, 202
- CreateEnhMetaFile, Win32 SDK, 137
- CreateFileMapping, Win32 SDK, 241
- CreateFileMapping, Win32 SDK, 137, 241, 245
- CreateMailslot, Win32 SDK, 137
- CreateProcessAsSuser, Win32 SDK, 139
- CreateProcessAsUser, Win32 SDK, 104, 119
- CreateProcess, Win32 SDK, 119, 139
- CreateRestrictedToken, Win32 SDK, 139
- CREATESTRUCT, Win32 SDK, 427
- CreateFile, Win32 SDK, 189, 295
- credits, 503, 569
- critical section, 52
- cross-compiling, 455
- CryptCreateHash, Win32 SDK, 124
- CryptGenRandom, Win32 SDK, 123
- crypt.c, sample, 44, 300
- crypt, C library, 136
- crypt, Unix-specific function, 123
- CScout, 248, 269
- csh.h, sample, 396
- csh, sample, 396
- csh*, Unix-specific command, 396
- css, 124
- ctype.h, sample, 175, 180
- ctype\_.c, sample, 175
- currency\_symbol, C library, 314
- curses, Unix-specific function, 294
- cuserid, Unix-specific function, 124
- cvs, 331, 343
- cyclic dependencies, 349
- cyclic redundancy check, 199
- cyclomatic complexity, 328, 333, 432, 442
- DAC, 134
- daemons, 185, 449
- data abstraction, 419, 423, 425
- data coupling, 377, 396
- data hiding, 419
- data input, 17
- data type, 423

- data-handling, 69
- database log, 63, 87
- database server, 65
- database systems, 92
- Database.java, sample, 337, 342, 389
- DatabaseInformation.java, sample, 358
- DatabaseManager.java, sample, 339
- DatabaseManager, Java class, 166
- DatabaseMetaData, Java interface, 333, 334, 439
- Date, 313
- DateFormat, Java class, 315
- db, Unix-specific function, 214, 277, 286
- DBL\_EPSILON, C identifier, 473
- dbm, Unix-specific function, 294
- DBWriter.java, sample, 62
- dc, Unix-specific command, 355
- DDE, 137
- DdeAddData, Win32 SDK, 137
- DdeImpersonateClient, Win32 SDK, 139
- de\_DE, 314
- deadlock, 51
- debug information, 280
- DEBUG, C identifier, 450
- debugging information, 229
- decimal, C# keyword, 480
- decimal\_point, C library, 314
- decision tree, 442
- decorated names, 306
- decorator pattern, 462
- DefaultContext.java, sample, 209
- defensive coding, 446
- defined, 293
- DelegatingListener.java, sample, 224, 225
- DelegationPermission, Java class, 142
- delete, operator, 37, 256
- demand loading, 242
- demand.c, sample, 200
- Demeter's Law, 410, 463
- denial-of-service attack, 68, 105, 253
- denormal value, 475
- dependency analysis, 455
- dependency, code, 377
- dependency isolation, 290, 291, 301, 308
- dependency metrics, 343
- dependency relationship, 12
- depth of inheritance tree, 334
- design pattern, 54, 409, 410, 462
  - bridge, 410
  - builder, 410
  - chain of responsibility, 410
  - decorator, 462
  - double-checked locking, 54
  - factory method, 410
  - iterator, 410
  - mediator, 410
  - memento, 410
  - observer, 462
  - singleton, 375
  - strategy, 31, 410
  - template method, 410
  - visitor, 410, 462
- design, project, 397
- design review, 397
- design, sample, 398
- Design, sample, 401
- Designer.java, sample, 21, 384
- destructor, 34, 36
- /dev/mem, filename, 244
- /dev/random, filename, 123
- development branch, 451
- device drivers, 105
- df.c, sample, 50, 421
- dfa.c, sample, 402
- dgl\_dlldemodat.h, sample, 74
- dgl\_dllguicontrol.h, sample, 359
- dgl\_dllsoundsystem.cpp, sample, 83
- dgl\_dllsoundsystem.h, sample, 83
- dhclient.c, sample, 129
- dhclient, Unix-specific command, 128, 131
- DHCP, 128, 129
- diagram, UML, 11
- diff, Unix-specific command, 310
- DigestAuthenticator.java, sample, 405, 406
- dilithium, 2
- dimension analysis, 80
- dir.c, sample, 368, 432
- direct memory access, 194
- directed acyclic graph, 349



- `dirent.h`, Unix-specific function, 294
- discretionary access control, 134
- disk buffer cache, 241
- disk cache, 235, 236
- disk partitions, 385
- `disklabel.h`, sample, 385
- `disksubr.c`, sample, 387
- dispatch table, 222
- `displayq.c`, sample, 118
- `Distinct.c`, sample, 177
- DIT, 334
- diverge, repeated instances, 414
- divide and conquer, algorithm, 273
- DLL, 57, 243, 320, *see also* shared library
- DLL hell, 281
- `dlopen`, Unix-specific function, 119
- DMA, 194
- DNS, 128, 131, 187
- do-no-harm, 62
- `do_command.c`, sample, 139
- `do_tris.c`, sample, 492
- doclet, 439
- `doio.c`, sample, 293
- domain coupling, 409
- domain-name, 129
- domain-specific language, 22, 71, 82, 278, 409
- `domainname.c`, sample, 61
- `DOMWriter.java`, sample, 329
- Don't Repeat Yourself, 413
- `doPrivileged`, Java method, 141
- DOS, 105
- double-checked locking, 54
- `Double`, Java class, 477, 480, 498
- `double`, type, 212, 466, 473, 474, 477, 492
- `doubleToLongBits`, Java method, 477
- downcast, 425
- Doxygen, 392
- `drand48`, Unix-specific function, 122
- `DrawState`, Win32 SDK, 58, 59
- `DrawText`, Win32 SDK, 137
- `draw.c`, sample, 482
- `driver.c`, sample, 296
- DRY principle, 413
- DSL, 82
- `dtrace`, Unix-specific command, 160, 205
- `du`, Unix-specific command, 421
- `dump`, Unix-specific command, 22, 93, 329
- `dumpbin`, Windows-specific command, 230, 246
- durability guarantees, 92
- DVD, 124
- dynamic coupling, 409
- Dynamic data exchange, 137
- dynamic link library, *see* DLL
- dynamically allocated memory, 229
- `e_hypot.c`, sample, 482
- early fail, unstable systems, 419
- Easter egg, 37, 433
- `ebp`, 179
- `EC_ObserverStrategy.cpp`, sample, 78
- ECC, 63, 93
- echo, sample, 441
- `echo`, Unix-specific command, 310, 441
- Eclipse, 333, 344
- `ed.h`, sample, 305
- `ed`, Unix-specific command, 383
- EEPROM, 449
- EFAULT, Unix-specific identifier, 143
- effective user, 113
- effereent couplings, 344
- efficiency, software, 5, 89
- efficiency, software *see also* performance, 89
- Eindhoven University, 144
- EJP, 166
- `elements.c`, sample, 176
- `else`, keyword, 374
- `emacs.c`, sample, 77
- embedded system, 76, 171
- emulation layer, 295, 308
- `en_US`, 314
- encapsulation, 366, 419, 421
- `end`, C++ method, 26
- `endian.h`, sample, 300
- endianness, 29, 298
- `engine.c`, sample, 168, 169, 260
- `EngineConfig.java`, sample, 358
- ENOENT, Unix-specific identifier, 143
- `Entries.java`, sample, 356
- entropy, 326

- environment variable
  - COMSPEC, 121
  - IFS, 120, 125, 126
  - LANG, 316
  - LIBPATH, 125, 126
  - PATH, 125
  - TERMCAP, 126
- environment variables, 317
- EPERM, Unix-specific identifier, 139
- epigram credits, 569
- epilogue, 268
- epsilon, 469
- equals, Java method, 34, 46
- err, Unix-specific function, 118, 258
- errno.h, C library, 293
- errno, C library, 64, 143, 292
- error-correction circuitry, 93
- error.c, sample, 297
- #error, C preprocessor directive, 304
- errors
  - absorption, 491
  - algorithm, 42
  - API, 57, 115
  - buffer overflow, 75, 106, 115
  - cancellation, 487
  - computation, 42
  - concurrency, 51
  - cryptographic, 122
  - data, 69
  - data leakage, 134
  - detection, 62
  - domain, 495
  - expression, 43, 47, 48, 49
  - extreme conditions, 27
  - fencepost, 26
  - floating-point, 465
  - forgotten steps or cases, 29
  - format, 24, 118
  - function domain, 495
  - inconsistent data, 82
  - initialization, 69
  - input, 17
  - interface, 56
  - logic, 26
  - memory leak, 65, 255, 256
  - metacharacter vulnerabilities, 119
  - misinterpretation, 40
  - missing methods, 34
  - missing output, 21
  - object-oriented code, 68
  - off-by-one, 26
  - operand, 43
  - operator, 47
  - operator precedence, 48
  - output, 21
  - overflow, 49, 481
  - packing, 80
  - privilege leakage, 134
  - race conditions, 112
  - recovery, 62
  - resource leak, 36, 65
  - result verification, 59, 131
  - return value checks, 59, 131
  - rounding, 478
  - scale, 79
  - security, 101
  - sign-conversion, 49
  - subscript, 77
  - temporary files, 121
  - timing, 23, 51
  - underflow, 49, 483
  - unit, 79
  - unnecessary functionality, 37
  - unpacking, 80
  - untrusted input, 125
  - variable references, 71
- errx, Unix-specific function, 118
- /etc/passwd, filename, 195
- ethereal, Unix-specific command, 160
- ethernet, 191
- ethernet interface, 160
- eval.c, sample, 362, 373
- event performance counters, 164
- ex, Unix-specific command, 242
- Excel, *see* Microsoft Excel
- exception, 62, 65, 67, 329, 498
- Exception, Java class, 46
- exclusion synchronization, 52
- exclusive-or, 200
- .exe, file extension, 120

- exec.c, sample, 27, 424
- exec, Unix-specific function, 114
- exec1, C library, 267
- exec1p, Unix-specific function, 119
- execute, Java method, 127
- execution time, 151
- execv, Unix-specific function, 121
- execvp, Unix-specific function, 119
- exercises, 14
- exf.c, sample, 193, 239
- exp, function, 477
- expand.c, sample, 47
- exploit, 107
- ext2fs, 236
- ExtendableRendererFactory.java, sample, 55
- extended cyclomatic complexity, 329
- Extensible Java Profiler, 166
- eXtensible Markup Language, *see* XML
- Extension.java, sample, 368
- extern.h, sample, 215
- external coupling, 385, 424
- external data representation, 298
- external fragmentation, 252
- external quality attributes, 2
- extreme conditions, 27
- eXtreme Programming, 4
  
- factory method, 410
- fail-safe mode, 134
- fail, Java method, 434
- failure, system, 85
- Fast Fourier Transforms, 205
- FAT, 252
- fault, software/hardware, 85
- fault tolerance, 5, 17, 63, 85, 422
- fchdir, Unix-specific function, 113, 116
- fchflags, Unix-specific function, 113
- fchmod, Unix-specific function, 112, 113
- fchown, Unix-specific function, 113
- fclose, C library, 291
- fcntl, Unix-specific function, 427
- FCS, 199
- fd.c, sample, 417
- FDD, 4
- FDDI, 448
- fdisk.c, sample, 385, 386
- fdisk, Unix-specific command, 385
- FE\_DIVBYZERO, C identifier, 496
- FE\_INVALID, C identifier, 496
- FE\_OVERFLOW, C identifier, 496
- FE\_UNDERFLOW, C identifier, 496
- Feature Driven Development, 4
- feenableexcept, Unix-specific function, 499
- fencepost error, 26, 100
- fenv.h, filename, 495
- fesetround, function, 481
- fetch.c, sample, 380
- FFS, 236
- ffs\_vfsops.c, sample, 391
- FFT, 205
- fgets, C library, 171, 310
- fgets, Unix-specific function, 116
- fgetwc, C library, 310
- Fibonacci numbers, 483
- FigSeqLink.java, sample, 413
- file descriptor, 66
- file extension
  - .com, 120
  - .exe, 120
  - .gmo, 320
  - .pdb, 280
  - .po, 318, 320
  - .pot, 318
  - .pox, 320
  - .property, 321
  - jar, 282
- file permission
  - group, 139
  - others, 139
  - owner, 139
- FilePermission, Java class, 142
- FILE, C library, 388
- Filecache.h, sample, 199
- filehandle, 65
- filename
  - /dev/mem, 244
  - /dev/random, 123
  - /etc/passwd, 195
  - fenv.h, 495

- float.h, 473, 477
- makefile, 145, 455
- FileStore.java, sample, 406
- final, Java keyword, 68, 357, 388
- finally, Java keyword, 63
- financial calculations, 50, 480
- find, Unix-specific command, 14, 166
- FindBugs, Java program, 3, 21, 45, 56, 99, 450
- finger, Unix-specific command, 277
- first-in first-out, 199
- fixed-space requirements, 208
- fixture, 434
- flat profile, 169
- Flawfinder, 146
- flight simulator, 37
- float.h, filename, 473, 477
- Float, Java class, 480
- float, type, 212, 466, 473, 474, 493
- floating-point, 465
  - arithmetic, 465
  - memory format, 472
  - negative, 475
- flock, Unix-specific function, 295
- FLT\_EPSILON, C identifier, 473
- fmod, C library, 477, 496
- fmtcheck, Unix-specific function, 119
- fopen, C library, 291, 394
- for, keyword, 26, 78, 328, 424
- foreach, keyword, 78
- forgotten steps or cases, 29
- fork, Unix-specific function, 93, 121, 139
- format errors, 24
- format string, 118
- FormatMessage, Win32 SDK, 118
- Format, Java class, 315
- Formatter, Java class, 24
- Forth, 355
- Fortran, 204, 387
- fortune.c, sample, 374
- fortunes, sample, 238, 569
- Foundation Class Library, 308
- fprintf, C library, 118, 167, 291
- fpsetround, function, 481
- fputc, C library, 310
- frac\_digits, C library, 314
- fragile base class problem, 336
- fragility, code, 418
- fragmentation, memory, 247
- frame buffer, 244
- frame check sequence, 199
- frame pointer, 179, 267
- free, C library, 37, 136, 256, 274
- fs.h, sample, 87
- fscanf, C library, 116, 291, 446
- fsck, Unix-specific command, 88
- fsi\_lex.l, sample, 18
- fstat, sample, 104
- fstat, Unix-specific function, 112, 113, 162
- fstat, Unix-specific command, 104, 246
- fstatfs, Unix-specific function, 113
- FTP, 107, 134
- ftp, Unix-specific command, 109
- ftpd.c, sample, 118
- ftpd, Unix-specific command, 107
- ftpd, sample, 107
- ftruncate, Unix-specific function, 113
- function
  - acos, 477, 496
  - asin, 496
  - atan, 477
  - atanh, 477
  - cos, 477
  - exp, 477
  - fesetround, 481
  - fpsetround, 481
  - isinf, 498
  - isnan, 498
  - lgamma, 477
  - log, 477, 496
  - pow, 477, 484, 496
  - sqrt, 477, 489, 496
- function inlining, 281
- function overloading, 406
- functional characteristics, 423
- functional testing, 433
- functionality, software, 5, 9
- futimes, Unix-specific function, 113
- g++ -ffloat-store, 494
- Gang of Four, 410

- garbage collection, 66, 226, 259, 262
- garbage collector, 256
- garbage-in garbage-out, 498
- gcc, 303
- gcc -ffloat-store, 494
- gcc, Unix-specific command, 44, 57, 269, 280, 441, 453, 481, 485, 486
- gcov, Unix-specific command, 441, 443
- GDI, 65
- gencat, Unix-specific command, 317
- generality, code, 153
- generalization relationship, 12
- GeneratorJava.java, sample, 67
- generic programming, 278
- generic types, 449
- generics, 426
- GetCurrencyFormat, Win32 SDK, 315
- GetDateFormat, Win32 SDK, 315
- GetFileSecurity, Win32 SDK, 139
- GetFileSizeEx, Win32 SDK, 59
- GetFileSize, Win32 SDK, 59, 60
- GetLastError, Win32 SDK, 64
- GetLocaleInfo, Win32 SDK, 315
- GetNumberFormat, Win32 SDK, 315
- GetTimeFormat, Win32 SDK, 315
- getCollationKey, Java method, 316
- GetConsoleScreenBufferInfo, Win32 SDK, 291
- getcwd, Unix-specific function, 116
- getdate, Unix-specific function, 18
- getdents, Unix-specific function, 424
- getInstance, Java method, 315
- GetLocaleInfo, Win32 SDK, 315
- GetLocales02.java, sample, 46
- getlogin, Unix-specific function, 124
- GetMessage, Win32 SDK, 189
- getnetbyname, Unix-specific function, 128
- getnetnamadr.c, sample, 128, 418
- getObject, Java method, 321
- getopt, Unix-specific function, 30, 115
- getpass, Unix-specific function, 115, 136
- getpgr, Unix-specific function, 294
- getpwent.c, sample, 75
- getpwnid, Unix-specific function, 195, 196
- getretmips.c, sample, 199
- gets, C library, 116
- getsockname, Unix-specific function, 82
- getString, Java method, 321
- getStringArray, Java method, 321
- gettext, Unix-specific function, 316, 317, 318
- \_getvideoconfig, 291
- getwd, Unix-specific function, 116
- gid\_t, Unix-specific identifier, 294
- glibc, 498
- glob.c, sample, 315
- global namespace, 72
- global.c, sample, 42
- .gmo, file extension, 320
- gmon.c, sample, 61
- GNATS, 343
- GNOME, 307, 316
- GNU, 14, 498
- GNU C compiler, *see* gcc
- GNU Classpath, 275
- GNU MP, 480
- Goal-Question-Metric, 462
- gprof, Unix-specific command, 164, 167, 170, 171, 205
- GQM, 462
- gradual underflow, 475
- graphical user interface, 307
- graphics interface system, 244
- GraphViz, 11
- grep, Unix-specific command, 14, 146, 259, 451
- group, file permission, 139
- grouping, C library, 314
- gsp\_inst.c, sample, 221
- GTK, 308
- guarantee, algorithm's, 175
- GUI, 307, 449
- GUI toolkit, 18
- guidelines, 354, 363, 364, 462, 463
- half-open, 26
- Halstead complexity, 327
- handle, 66, 226
- hanoi.sed, sample, 255
- hard real-time systems, 152

- hashCode, Java method, 34
- hash.c, sample, 328, 329
- hash\_page.c, sample, 361
- HashMap, Java class, 35
- HashSet, Java class, 35
- Haskell, 364
- hasNext, Java method, 27
- hdc9224.c, sample, 191
- head, Unix-specific command, 310
- header files, 292, 294, 308, 323, 388, 452, 454, 455
- heap, 107, 229
- heap fragmentation, 226
- HeapFree, Win32 SDK, 240
- HeapAlloc, Win32 SDK, 240
- Heron, 494
- Hewlett-Packard, 355
- HexUtils.java, sample, 417
- high-water mark, 197
- histo.pl, sample, 497
- host.c, sample, 356
- hprof, Java program, 164
- HSQldb, 165, 190, 343
- hsqldb, sample, 190, 333
- HsqlTimestamp.java, sample, 47
- HTML, 126, 308
- htonl, Unix-specific function, 300
- htons, Unix-specific function, 300
- HTTP, 228, 245, 308
- http\_config.c, sample, 255
- http\_main.c, sample, 79, 88, 245
- http\_protocol.c, sample, 55
- httpd.h, sample, 120
- HttpProcessor.java, sample, 52
- HttpRequestStream.java, sample, 60
- HttpResponseBase.java, sample, 52
- humanize\_number, Unix-specific function, 25
- Hungarian naming notation, 359
- hypot, C library, 482
  
- I/O bound, 158
- i10n, 309
- i18n, 309
- i386, 110, 111, 210
- i82365.c, sample, 44
  
- IA, 215, 231, 297
- IA-32, 210
- IA-64, 210, 230
- iBCS2, 135
- ibcs2\_stat.h, sample, 135
- IBM, 229
- IDE, 332, 389
- IDEA IDE, 332
- identification, software changeability, 403
- identifier name
  - MSDOS, 293
  - NULL, 146, 228
  - PIPE\_MINDIRECT, 187
- identifying elements to change, 403
- idle, 151
- idle time, 157
- IEC, 466
- IEC 60559
  - 1989, *see also* IEEE 754-1985
- IEEE 754, 466, 469, 481, 483, 487, 489, 494, 498, 499, 501, 502
- IEEE Software, 15, 461, 463
- IEEE Standard 1003.1, 42
- ieee\_handler.h, sample, 430
- if.t, sample, 440
- #if, C preprocessor directive, 304
- if, keyword, 64, 328, 329, 368, 373, 374, 498
- if\_ie.c, sample, 376, 414
- if\_strip.c, sample, 429
- ifconfig.c, sample, 31
- IFS, environment variable, 120, 125, 126
- ilities, xxvi, *see also* quality attributes
- ImpersonateDdeClientWindow, Win32 SDK, 134
- ImpersonateNamedPipeClient, Win32 SDK, 134
- ImpersonateAnonymousToken, Win32 SDK, 134
- ImpersonateLoggedOnUser, Win32 SDK, 134, 139
- ImpersonateNamedPipeClient, Win32 SDK, 139
- ImpersonateSecurityContext, Win32 SDK, 134
- ImpersonateSelf, Win32 SDK, 134

- implementation inheritance, 336
- `import`, Java keyword, 75
- `in_cksum.c`, sample, 85
- `in_cksum_arm32.c`, sample, 181
- include files, *see* header files
- incomplete output, 21
- inconsistent data, 82
- inconsistent synchronization, 56
- incorrect input, 19
- incremental build, 452
- `indent`, Unix-specific command, 354, 463
- indentation, code, 363, 364
- index, array, 26
- indexed fit, 253
- INF, 495
- infinity, 470, 476, 495, 496
- inheritance, 12, 277
- `init.c`, sample, 136, 257, 277
- `init`, Unix-specific command, 136, 257, 277
- `init_main.c`, sample, 72, 452
- injection attack, 126
- inline
  - functions, 179
  - methods, 179
- inline assembly, 181
- `inline`, keyword, 180, 276, 280, 294
- inner class, 358
- input problems, 17
- `InputStreamReader`, Java class, 312
- inspection-time, 432
- instability metric, 346
- `install`, Unix-specific command, 269, 271, 272, 281, 294
- installability, software, 7
- `int`, keyword, 294
- `int`, type, 211, 216, 225
- `int_curr_symbol`, C library, 314
- `int_frac_digits`, C library, 314
- integer size, 296
- `integer.h`, sample, 80
- Integrated Development Environment, *see* IDE
- integration testing, 432, 437
- Intel, 210, 236
- Intel Binary Compatibility Standard 2, 135
- `interact.c`, sample, 25
- interface, 12
- interface inheritance, 336
- internal field separator, 121
- internal fragmentation, 252
- internal quality attributes, 3
- `internal`, C# keyword, 420
- International Obfuscated C Code Contest, 332
- internationalization, 119, 309
- internet packet filter, 228
- interoperability, 5, 153
- interprocedural optimizations, 279
- interprocess communication, 186, 187, 241, 244
- interrupt, hardware, 51, 194
- interrupt service routine, 194
- interval arithmetic, 470, 481
- intrinsic functions, 180
- INVALID\_HANDLE\_VALUE, Win32 sdk, 245
- invariant expression, 445, 463
- `io.c`, sample, 201
- `ioctl`, Unix-specific function, 291, 294, 426, 427
- `IOException`, Java class, 46
- `iostat`, sample, 159
- `iostat`, Unix-specific command, 159
- IP, 85
- `ip_output.c`, sample, 86
- IPC, 186
- `iperlsys.h`, sample, 303
- `ipresend`, Unix-specific command, 228
- IPsec, 128
- IPv4, 127
- IPv6, 128
- `isalnum`, C library, 175, 176, 180
- `isctype.c`, sample, 175
- `isdigit`, C library, 175, 291
- `isinf`, function, 498
- `isInfinite`, Java method, 498
- `islower`, C library, 175
- `isnan`, function, 498
- `isNaN`, Java method, 498
- ISO, 311, 312
- ISO 9001, 4
- ISO C, 309
- ISO/IEC, 15

- ISO/IEC 9126, 4
- isolation of dependencies, *see*
  - dependency isolation
- isupper, C library, 175, 394
- it\_IT, 314
- iterator, 26, 410
- Iterator, Java interface, 27, 424
- ITS, 149
- ITS4, 146
  
- J2SE, 312
- Jalopy*, Java program, 463
- January 19, 2038, 49
- jar, file extension, 282
- jarg*, Java program, 282
- Jasper, 224, 382
- JasperLogger.java, sample, 46
- java*
  - client, 152
  - server, 152
- Java 1.5, 426
- Java 5.0 memory model, 286
- Java applets, 274
- Java class
  - AccessController, 141
  - AllPermission, 142
  - ArrayList, 426
  - AudioPermission, 142
  - AuthPermission, 142
  - AWTPermission, 142
  - BigDecimal, 50, 480
  - BufferedWriter, 24
  - Collator, 315
  - DatabaseManager, 166
  - DateFormat, 315
  - DelegationPermission, 142
  - Double, 477, 480, 498
  - Exception, 46
  - FilePermission, 142
  - Float, 480
  - Format, 315
  - Formatter, 24
  - HashMap, 35
  - HashSet, 35
  - InputStreamReader, 312
  - IOException, 46
  - java.security.SecureRandom, 123
  - JFormattedTextField, 18
  - LoggingPermission, 142
  - ManagementPermission, 142
  - Map, 54
  - MBean...Permission, 142
  - NetPermission, 142
  - NumberFormat, 315
  - Object, 334, 425, 426
  - OutputStreamWriter, 312
  - PreparedStatement, 66
  - PrintStream, 24
  - PrivateCredentialPermission, 142
  - PropertyPermission, 142
  - ReflectPermission, 142
  - ResourceBundle, 320
  - RuntimePermission, 142
  - ScriptTool, 166
  - SecurityManager, 140
  - SecurityPermission, 142
  - SerializablePermission, 142
  - ServicePermission, 142
  - SimpleDateFormat, 18
  - SimpleDateFormat, 315
  - SocketPermission, 142
  - SQLPermission, 142
  - SSLPermission, 142
  - SubjectDelegationPermission, 142
  - Throwable, 46
  - toString, 22
  - UnresolvedPermission, 142
  - Vector, 76
  - volatile, 55
- Java exception
  - ArrayIndexOutOfBoundsException, 75, 107, 359
  - AssertionError, 445
  - ClassCastException, 426
  - NullPointerException, 47
  - SecurityException, 140
- Java interface
  - Collection, 214
  - DatabaseMetaData, 333, 334, 439
  - Iterator, 27, 424



- TransformerHandler, 395
- Java keyword
  - byte, 211
  - catch, 67
  - class, 79
  - final, 68, 357, 388
  - finally, 63
  - import, 75
  - new, 262
  - package, 343, 420
  - private, 420, 422
  - protected, 420
  - public, 420, 421, 422
  - static, 262, 357
  - strictfp, 485, 494
  - synchronized, 52, 55
  - try, 46, 67
  - volatile, 56
  - see also* keyword
- Java Management Extensions, 348
- Java method
  - assertFalse, 434
  - assertNotNull, 434
  - assertNull, 434
  - assertTrue, 434
  - checkPermission, 140, 141
  - checkRead, 140
  - close, 66, 67
  - compare, 315
  - ConcurrentHashMap, 55
  - doPrivileged, 141
  - doubleToLongBits, 477
  - equals, 34, 46
  - execute, 127
  - fail, 434
  - getCollationKey, 316
  - getInstance, 315
  - getObject, 321
  - getString, 321
  - getStringArray, 321
  - hashCode, 34
  - hasNext, 27
  - isInfinite, 498
  - isNaN, 498
  - Locale.getDefault(), 321
  - Math.pow, 484
  - next, 27
  - notify, 52, 55
  - notifyAll, 55
  - parseDouble, 480
  - parseFloat, 480
  - println, 449
  - sort, 403
  - synchronizedMap, 55
  - System.gc, 246
  - toString, 480
  - wait, 52, 54, 55
  - see also* function
- Java operator, *see* operator
- Java package
  - java.applet, 334
  - java.awt, 334
  - java.text, 315
  - java.util.concurrent, 52
  - java.util.Random, 122
  - javax.xml.transform.sax, 396
  - log4j, 449, 463
  - util.logging, 449
- Java program
  - FindBugs*, 3, 21, 45, 56, 99, 450
  - hprof*, 164
  - Jalopy*, 463
  - jarg*, 282
  - javac*, 305
  - javadoc*, 389, 392, 393, 439
  - JavaGuard*, 282
  - JODE*, 282
  - PMD*, 463
  - ProGuard*, 282
  - RetroGuard*, 282
- Java virtual machine, *see* JVM
- Java virtual machine tool interface, 164
- java.applet, Java package, 334
- java.awt, Java package, 334
- java.security.SecureRandom, Java class, 123
- java.text, Java package, 315
- java.util.concurrent, Java package, 52
- java.util.Random, Java package, 122
- javac*, Java program, 305

- javadoc*, Java program, 389, 392, 393, 439
- JavaGuard*, Java program, 282
- JavaOne, 501
- javax.xml.transform.sax*, Java package, 396
- JDBC, 65, 66, 333
- jdbcDatabaseMetaData.java*, sample, 126
- jdbcDatabaseMetaData.java*, sample, 333
- jdbcResultSet.java*, sample, 394
- jdbcStatement.java*, sample, 390
- JDBCStore.java, sample, 63, 407
- JDepend, 350
- JFormattedTextField*, Java class, 18
- JikesJavaCompiler.java*, sample, 432
- JispFilesystemStore.java*, sample, 373
- JODE*, Java program, 282
- join*, Unix-specific command, 310
- jot.c*, sample, 20
- journal log, 236
- JspC.java*, sample, 26
- JspEngineContext.java*, sample, 382
- JspParseEventListener.java*, sample, 31
- JspServlet.java*, sample, 140
- JspWriterImpl.java*, sample, 76
- JTidyTask.java*, sample, 358
- JUnit, 2, 347, 434
- just-in-time compilers, 205
- JVM, 142, 163, 210, 211, 234, 298
- JVMTI, 164
  
- KDE, 307, 316
- Kerberos, 142
- kern, sample, 404
- kern\_descrip.c*, sample, 66
- kern\_fork.c*, sample, 145
- kern\_malloc.c*, sample, 247
- kern\_subr.c*, sample, 377
- kern\_time.c*, sample, 133
- kernel code, 105
- kernel time, 157
- kernel-bound, 161
- kernel-loadable modules, 105
- key.c*, sample, 91
- keyword
  - break, 371
  - case, 328, 367, 447
  - char, 310, 312
  - const, 294
  - continue, 371
  - else, 374
  - for, 26, 78, 328, 424
  - foreach, 78
  - if, 64, 328, 329, 368, 373, 374, 498
  - inline, 180, 276, 280, 294
  - int, 294
  - long double, 294
  - long int, 294
  - long long, 305
  - namespace, 343, 420
  - packed, 220
  - private, 420
  - protected, 420
  - public, 420, 421
  - register, 232
  - return, 265
  - sizeof, 417
  - static, 196, 421
  - struct, 79
  - switch, 328, 367, 370, 371, 447
  - this, 74
  - typedef, 79, 222
  - union, 298, 477
  - using, 75
  - void, 305
  - volatile, 232
  - wchar\_t, 310, 312
  - while, 328, 368
- kill, Unix-specific function, 447
- kilo, unit of measure, 25
  
- Lachesis, 332
- lack of cohesion in methods, 339, 408
- LANG, environment variable, 316
- language extension, 302
- language features, 304
- late binding, 222
- Latin-1, 311
- Law of Demeter, 410, 463
- LBX, 398, 400
- lbdelta.c*, sample, 399

- `ltxdeltastr.h`, sample, 399
- `ltxmain.c`, sample, 399
- `ltxopts.h`, sample, 399
- `lcmd1.c`, sample, 298
- `LCOM`, 339
- `LDBL_EPSILON`, C identifier, 473
- leak, 135
  - data, 134
  - memory, 65, 255, 256
  - privilege, 134
  - resource, 36, 65
- Lean Software Development, 4
- learnability, effort, 5
- least recently used, 198
- left-shift operation, 48
- legacy code, 133
- length, string, 310
- level 1 cache, 233
- level 2 cache, 233
- level 3 cache, 233
- `lex.c`, sample, 372
- lex*, Unix-specific command, 18
- lexical analyzer, 18
- `lfs_vfsops.c`, sample, 390, 391
- `lgamma`, C library, 496
- `lgamma`, function, 477
- `libc`, sample, 404
- `LIBPATH`, environment variable, 125, 126
- `library.c`, sample, 48
- lifetime, allocated memory, 246
- LIFO, 264
- `LIM EMS`, 237
- line printer, 69
- line printer daemon, 422
- linear search, 173, 175
- linked list traversal, 374
- lint*, Unix-specific command, 20, 21, 99, 450
- Linux, 14, 145, 295
- Linux Standard Base, 316
- `linux_file.c`, sample, 295
- little-endian, 298
- ln*, Unix-specific command, 294
- load sensitivity, 152
- `LoadLibraryEx`, Win32 SDK, 119
- `LoadLibrary`, Win32 SDK, 119
- `LoadBalancer_i.h`, sample, 84
- `LoadLibrary`, Win32 SDK, 320
- `LoadString`, Win32 SDK, 320
- local attacks, 104
- locale, 210, 313
- `Localeconv`, C library, 313
- `Locale.getDefault()`, Java method, 321
- `Localeconv`, C library, 167
- locality of reference, 192, 195, 205, 233, 234, 235, 236, 238, 242
- locality-of-reference, 252
- localization, 71, 309
- `LocalStrings_en.properties`, sample, 321
- `LocalStrings_es.properties`, sample, 321
- log file, 92
- log scale, 13
- `Log.java`, sample, 92
- `log10`, C library, 489, 496
- `log1p`, C library, 496
- `log2`, C library, 496
- `log4j`, Java package, 449, 463
- `log`, function, 477, 496
- `logb`, C library, 496
- logger*, Unix-specific command, 186
- `LoggingPermission`, Java class, 142
- `Logging_Strategy.cpp`, sample, 360, 361
- logic problems, 26
- logical AND, 329
- logical OR, 329
- `logresolve.c`, sample, 160, 161
- logresolve*, Unix-specific command, 160, 161
- long double, keyword, 294
- long double, type, 466, 473
- long int, keyword, 294
- long long, keyword, 305
- long, type, 211
- look*, Unix-specific command, 242
- lookup table, 199, 428
- loop unrolling, 281
- loop, 301
- Low Bandwidth X, 398
- `lp`, sample, 422
- lp*, Unix-specific command, 422
- `lParam`, Win32 SDK, 427
- `lpc`, sample, 422

- lpc*, Unix-specific command, 422
- lpd*, sample, 422
- lpd*, Unix-specific command, 422
- lpq*, sample, 422
- lpq*, Unix-specific command, 422
- lpr.c*, sample, 114, 227
- lpr*, sample, 422
- lpr*, Unix-specific command, 422
- lprm*, sample, 422
- lprm*, Unix-specific command, 422
- LRGB.c*, sample, 177
- LRU, 199, 202, 205
- ls.c*, sample, 33, 162
- ls*, Unix-specific command, 33, 162, 195, 313, 424
- LSB, 316
- lsuf*, Unix-specific command, 104, 246
- lstat*, Unix-specific function, 162
- ltrace*, Unix-specific command, 160, 167, 171, 172
- lynx*, Unix-specific command, 318, 321
- LZCopy, Win32 SDK, 137
  
- m\_*, 74
- Mac, 307
- MAC, 134
- Mach, 286
- macro constants, 291
- macros, 449
- magic numbers, 416
- Mail slot, 137
- MailSessionFactory.java*, sample, 141
- main memory, 232
- main sequence, 349
- main.c*, sample, 77, 112, 116, 167, 217, 431
- Main.java*, sample, 402
- main*, C library, 433
- maintainability index, 326, 327, 329
- maintainability measurements, 326
- maintainability, software, 5, 7, 71, 82, 325, 461
- maintenance, code, 40, 302, 325, 461
- make, sample, 191
- make*, Unix-specific command, 191, 192, 454, 455
- makedepend*, sample, 453
- makedepend*, Unix-specific command, 453
- makefile, 145
- Makefile.std*, sample, 304
- makefile, filename, 145, 455
- Makefile*, sample, 455, 456
- makewhatis.sh*, sample, 55
- malloc.c*, sample, 218, 240, 247
- Malloc.cpp*, sample, 247
- malloc*, C library, 36, 45, 76, 136, 143, 229, 238, 239, 240, 254, 255, 256, 258, 260, 299
- management console, 159
- ManagementPermission*, Java class, 142
- ManagerServlet.java*, sample, 75
- mandatory access control, 134
- MapViewOfFile*, Win32 SDK, 241, 245
- map.c*, sample, 277
- Map*, Java class, 54
- mapping, 31
- MapStackResolver.java*, sample, 371
- Mark.java*, sample, 34
- master boot record, 385
- Math.pow*, Java method, 484
- maturity, 17, *see also* errors
- maturity, software, 5, 17
- MBean...Permission*, Java class, 142
- mb1en*, C library, 310
- mbstowcs*, C library, 310
- mbtowc*, C library, 310
- mcount.c*, sample, 171, 172
- mcount*, Unix-specific function, 171, 172
- md4.h*, sample, 306
- md5.c*, sample, 50
- measurements
  - maintainability, 326
  - time performance, 156
- mediator, 410
- mega, unit, 25
- memchr*, C library, 167
- memcmp*, C library, 180
- memcpy*, C library, 180
- memento, 410

- memory
  - physical, 193
  - virtual, 192
- memory allocation, 218, 438
- memory allocator, 247
- memory hog, 209
- memory leak, 65, 255
- memory model, 211
- memory-alignment, 216
- MemoryRealm.java, sample, 18
- memset, C library, 136
- merge sort, 239
- message identifier, 317
- MessageBox, Win32 SDK, 137
- messages, 316
- metaconfig*, Unix-specific command, 294
- metadata, 236
- method area, 224
- method table, 224
- metrics
  - dependency, 343
  - maintainability, 327
  - object-oriented, 333
- MetricsReloaded, 332
- MFC, 308
- mga\_storm.c*, sample, 235
- miarc.c*, sample, 487, 488, 496
- microreboot, 100
- Microsoft
  - Access, 434
  - C/C++ compiler, 485
  - C#, *see* C#
  - compilers, 494
  - DOS, *see* MS-DOS
  - Excel 97, 37
  - Foundation Class Library, 308
  - SDK element, *see* Win32 SDK
  - Visual Basic, 434
  - Windows, 307
  - Windows SDK, *see* Win32 SDK
  - Word, 136
- microSPARC I, 233
- Mil. Spec., 4
- Minix, 297
- MIPS, 230, 268
- misc.c*, sample, 258, 402, 478, 479
- misinterpretation, specification, 40
- missing methods, 34
- missing output, 21
- mitigation, reliability and, 5
- mkdep, sample, 453
- mkdep*, Unix-specific command, 453
- mknodes.c*, sample, 311
- mks-temp*, Unix-specific function, 121, 122
- mktemp*, Unix-specific function, 121
- mmap*, Unix-specific function, 137, 241, 242, 244, 294
- mock object, 437
- mod\_i\_sapi.c*, sample, 359
- mode\_t*, Unix-specific identifier, 294
- model-driven architectures, 441
- modular implementation, 419
- modularity, 87, 422
- mon\_decimal\_point*, C library, 314
- mon\_grouping*, C library, 314
- mon\_thousands\_sep*, C library, 314
- monetary values, 480
- monitor code, 52
- more*, Unix-specific command, 30
- motd*, sample, 184
- Motif, 307
- mount.c*, sample, 447
- mount*, Unix-specific command, 447
- MP3, 171
- mp*, Unix-specific function, 50, 294
- MS-DOS, 229
- MSDOS, identifier name, 293
- msgfmt*, Unix-specific command, 320
- msgmerge*, Unix-specific command, 320
- msgs.c*, sample, 20
- mt.c*, sample, 427
- mt*, Unix-specific command, 427
- MTIOCGET, Unix-specific identifier, 427
- MTIOCRDHPOS, Unix-specific identifier, 427
- MTIOCRDSPOS, Unix-specific identifier, 427
- MTIOCTOP, Unix-specific identifier, 427
- mulaw.c*, sample, 453
- multibyte, 309
- multicore, 454
- multiprocessor system, 55

- multithread.c, sample, 447
- MX4J, 348
- n\_cs\_precedes, C library, 314
- n\_fmod.c, sample, 433
- n\_sep\_by\_space, C library, 314
- n\_sign\_posn, C library, 314
- name mangling, 306
- NameHandler.cpp, sample, 302
- namespace, 382
- namespace, C# keyword, 420
- namespace, keyword, 343, 420
- NamingEntry.java, sample, 35
- NaN, 477, 485, 495, 496, 498, 499
- NAN, 495
- NASA, 341
- ncr5380sbc.c, sample, 89
- ncrstat.c, sample, 25
- NDEBUG, C identifier, 445, 450
- negative numbers, 475
- negative\_sign, C library, 314
- .NET, 210, 301
- NetJoinDomain, Win32 SDK, 139
- NetMessageBufferSend, Win32 SDK, 137
- NetPermission, Java class, 142
- netbios-scope, 129
- netstat, sample, 159
- netstat, Unix-specific command, 104, 159, 161
- netstat, Windows-specific command, 104
- Network Information Service, 195, 439
- new(), operator, 68
- new[], operator, 229
- new, C library, 299
- new, Java keyword, 262
- new, operator, 229, 240, 248, 256
- newfs.c, sample, 87, 372
- newfs, Unix-specific command, 87
- Newton-Raphson, 484
- next, Java method, 27
- NFS, 424, 431
- nfsstat, sample, 159
- nfsstat, Unix-specific command, 159
- NIS, 195, 439
- nis-domain, 129
- nlist\_aout.c, sample, 75
- nm, Unix-specific command, 230
- NOC, 335
- nonce, 123
- nonfunctional properties, *see* quality attributes
- nonfunctional requirements, xxvi, 15
- normalization, 83, 494
- normalized, 474
- Not a Number, 477, *see also* NaN
- not frequently used, 199
- not recently used, 199
- notify, Java method, 52, 55
- notifyAll, Java method, 55
- ntohl, Unix-specific function, 300
- ntohs, Unix-specific function, 300
- NullPointerException, Java exception, 47
- NULL, 45
- NULL, C identifier, 59, 424
- NULL, identifier name, 146, 228
- number of children in a class, 335
- NumberFormat, Java class, 315
- nvi, Unix-specific command, 91, 239
- O-notation, 173
- obfuscation, 138
- obfuscators, 282
- objdump, Unix-specific command, 230
- Object, Java class, 334, 425, 426
- observer pattern, 462
- ODBC, 65
- OemToChar, Win32 SDK, 116
- off-by-one, 107
- off-by-one error, 26, 108
- oftodclock.c, sample, 354
- old-style C declarations, 57
- open range, 466
- open source software, xxvii
- OpenProcessToken, Win32 SDK, 139
- open, Unix-specific function, 114, 116, 143, 183, 184, 189, 195, 291, 295
- OpenCL, 223, 437
- openc1.ps, sample, 355
- opendir, Unix-specific function, 424
- OpenFile, Win32 SDK, 291
- OpenSSL, 124, 269
- operability, software, 5

- operating system, 228, 240, 290
- operating system kernel, 65, 182
- operation not permitted, 139
- operator
  - |, 47
  - ||, 47, 329
  - ++, 407
  - >>, 47
  - ##, 294
  - &&, 47, 329
  - &, 47
  - delete, 37, 256
  - new(), 68
  - new[], 229
  - new, 229, 240, 248, 256
  - sizeof, 215
- operator overloading, 80, 179, 406
- operator precedence, 48
- oprofile*, Unix-specific command, 164
- ops\_host.c*, sample, 449
- optimization, performance, 84
- optimize for space, 281
- optimize.c*, sample, 180, 365
- option.c*, sample, 30
- options.c*, sample, 129, 399
- os x, 260
- os.c*, sample, 273
- os/2*, 292
- ossaudio.c*, sample, 50
- others, file permission, 139
- out-of-band channel, 143
- output problems, 21
- OutputStreamWriter*, Java class, 312
- overflow, 49, 481
- owner, file permission, 139
  
- p\_cs\_precedes*, C library, 314
- p\_sep\_by\_space*, C library, 314
- p\_sign\_posn*, C library, 314
- pack, Perl function, 82
- package metrics, 343
- package visibility, 420
- package, Java keyword, 343, 420
- packages, 421
- packed, keyword, 220
  
- padding space, 217
- PAE, 237
- PAES, 237
- page fault, 192, 242
- PageContextImpl.java*, sample, 447
- pagesize.sh*, sample, 119
- paging, 192, 205
- paging file, 238
- panic, operating system, 91
- parallel compilation, 454
- parallelism, 51
- param.h*, sample, 271, 272
- parametric polymorphism, 278, 406, 407
- parents, 167
- Pareto Principle, 163, 164, 204
- parms.c*, sample, 45
- Parrot virtual machine, 301
- parseDouble*, Java method, 480
- parseFloat*, Java method, 480
- parser, 18
- parser.c*, sample, 18
- Parser.java*, sample, 358
- ParserController.java*, sample, 62
- partition, 385
- passwd.c*, sample, 118
- paste.c*, sample, 171
- paste*, Unix-specific command, 171
- pat\_rep.c*, sample, 40, 41, 374
- patcache.c*, sample, 199
- patch.c*, sample, 238
- path, 119
- path coverage, 442
- path vulnerability, 119
- PATH, environment variable, 125
- pattern, *see* design pattern
- pax*, Unix-specific command, 40
- .pdb, file extension, 280
- PDP-11, 296, 300
- pdp11, Unix-specific identifier, 296
- pdq.c*, sample, 448
- PeekMessage*, Win32 SDK, 189
- Pentium, 289, 298
- perfmon*, Windows-specific command, 159
- performance
  - algorithm, 173

- build, 451
- caching, 194
- code space, 274
- CPU, 163
- heap space, 246
- i/o, 158
- interrupts, 194
- kernel, 161
- operating system, 182
- peripherals, 190
- stack space, 264
- thrashing, 191
- time, 151, 207
- performance measurement, 156
- performance model, 182
- Perl, 28, 147, 182, 280, 293, 301
- Perl function
  - pack, 82
  - unpack, 82
- Perl keyword
  - see* keyword
- Perl operator, *see* operator
- perlsdio.h, sample, 388
- perror.c, sample, 185
- perror, C library, 185
- persistent software attributes, 15, *see*
  - quality attributes
- PersistentManagerBase.java, sample, 406
- RGP, 144
- phantasia, sample, 478
- phantasia*, Unix-specific command, 478
- phantstruct.h, sample, 478
- PHP, 147, 261
- PHP 4, 38
- Physical Address Extensions, 237
- physical memory, 193, 244
- pid\_t, Unix-specific identifier, 294
- ping, Unix-specific command, 187, 188, 189
- PIO, 159
- pipe, Unix-specific function, 121
- PIPE\_MINDIRECT, identifier name, 187
- PLDI, 501
- PMD, 332
- PMD, Java program, 463
- .po, file extension, 318, 320
- poll, Unix-specific function, 189
- polling, 189
- polymorphic abstraction, 406
- polymorphic functions, 297
- polymorphism, 277, 397
- pom.c, sample, 485
- pom, sample, 80
- pop, stack structure, 264
- popen.c, sample, 423
- popen, Unix-specific function, 119, 120, 121, 125
- portability, 7, 81, 128, 153, 208, 218, 289
  - character set, 309
  - compiler, 302
  - graphical user interface, 307
  - hardware, 296
  - internationalization, 309
  - language, 302
  - locale, 313
  - localization, 309
  - messages, 316
  - operating system, 290
  - processor, 296
- portability layer, 308
- portability, software, 5
- portable platform, 308
- positive\_sign, C library, 314
- POSIX, 15, 291
- postcondition, 390, 445
- PostScript, 355, 456
- .pot, file extension, 318
- pow, C library, 484
- pow, function, 477, 484, 496
- power law, 13
- PowerPC, 230, 299
- .pox, file extension, 320
- pp.c, sample, 296
- PPP, 112, 199, 202
- ppp\_defs.h, sample, 201
- ppp\_tty.c, sample, 200, 201
- pppd, Unix-specific command, 112, 113, 114
- #pragma, C preprocessor directive, 220
- pre.h, sample, 303
- precision, 465
- precision, floating-point, 465



- precomputing, 199
- precondition, 390, 445
- predicate, program flow, 328
- prefetched, data elements, 234
- PreparedStatement, Java class, 66
- preprocessor, *see* header files
- presenter, 166
- prevention, reliability and, 5
- primitive types, 209
- PrintStream, Java class, 24
- print.c, sample, 314
- printer spooler, 422
- printf, C library, 24, 118, 125, 126, 147, 267, 303, 313, 317, 428, 449
- println, Java method, 449
- PrivateKeyPermission, Java class, 142
- private.h, sample, 318
- private, C# keyword, 420
- private, Java keyword, 420, 422
- private, keyword, 420
- privilege escalation, 103, 104, 105
- privileges, 139
- privs.h, sample, 143
- proc.c, sample, 25
- process, 4, 102, 422
  - in UML diagrams, 11
- Process Explorer, Windows-specific command, 104
- process identifier, 446
- process quality, 4
- process.c, sample, 167, 260
- ProcessHelper.java, sample, 393
- processor architecture, 296
- processor time requirements, 151, 189
- product, complex interactions, 102
- profiler, 163
- program database, 280
- programmed input/output, 159
- Programming Language Design and Implementation Conference, 501
- progressive activities, 325
- ProGuard, Java program, 282
- Project.java, sample, 262, 385
- prologue, 267
- PropertyPermission, Java class, 142
  - .property, file extension, 321
- protected, C# keyword, 420
- protected, Java keyword, 420
- protected, keyword, 420
- proto.h, sample, 297, 417
- proxy\_cache.c, sample, 199
- ps, Unix-specific command, 137
- PScan, 147
- pseudorandom number, 122
- psout.c, sample, 116
- pthread\_rwlock\_\*, Unix-specific function, 55
- pthread\_barrier\_\*, Unix-specific function, 55
- pthread\_cond\_\*, Unix-specific function, 55
- pthread\_mutex\_\*, Unix-specific function, 55
- Pthreads, 100
- ptr, 128
- ptyx.h, sample, 209
- public, C# keyword, 420, 421
- public, Java keyword, 420, 421, 422
- public, keyword, 420, 421
- pure virtual method called, 223
- pure virtual, type, 223
- push, stack structure, 264
- putchar, C library, 394
- pwcache.c, sample, 195
- pwcache, Unix-specific function, 195
- pwrite, Unix-specific function, 136, 190
- Python, 147, 182, 364
- qsort.c, sample, 153, 173, 272
- qsort, C library, 153
- Qt, 308
- quad, 473
- quadratic equation, 487
- quality attributes, 4
  - analyzability, *see* analyzability
  - changeability, *see* changeability
  - comprehensibility, *see* comprehensibility
  - consistency, *see* consistency
  - efficiency, *see* efficiency
  - fault tolerance, *see* fault tolerance

- functionality, *see* functionality
- maintainability, *see* maintainability
- maturity, *see* maturity
- portability, *see* portability
- recoverability, *see* recoverability
- redundancy, *see* redundancy
- reliability, *see* reliability
- reviewability, *see* reviewability
- stability, *see* stability
- testability, *see* testability
- traceability, *see* traceability
- usability, *see* usability
- quality in use, 2, 15
- quality of implementation, 240
- queue.h, sample, 392
- quicksort, 153, 173, 174, 272
  
- race condition, 51, 52, 112
- radix sort, 246
- radixsort.c, sample, 246
- RAID, 63, 87
- rand.c, sample, 42, 122
- rand, C library, 122
- random number, 122
- random selection, 199
- random-access container, 26
- random, Unix-specific function, 122
- ranlib, Unix-specific command, 294
- RATS, 147
- rcp.c, sample, 18
- RDBMS, 187
- read-only data, 228
- read.c, sample, 75
- read, Unix-specific function, 93, 183, 189, 195, 291
- readability, 153, 352
- readdir, Unix-specific function, 424
- ReadFile, Win32 SDK, 291
- readv, Unix-specific function, 190
- real estate, 357, 360, 362, 390, 445, 449
- real numbers, 466
- real time, 157
- real user, 113
- real-time response, 151
- real-time system, 152
- realization relationship, 12
- realloc, C library, 136, 256, 258
- Realm.java, sample, 406
- RealmBase.java, sample, 406, 449
- reboot, 91
- recognizability, code, 374
- recoverability, software, 5, 17, 90
- recovery, reliability and, 5
- recurrence relation, 122
- recursive descent parser, 18
- recv, Unix-specific function, 183, 186
- recvfrom, Unix-specific function, 186, 187, 188
- recvmsg, Unix-specific function, 140
- redundancy, 83, 85, 87, 89
- reentrant, routine, 383
- refactoring, 325, 334
- ReflectPermission, Java class, 142
- reflection, 22, 30, 434
- refresh.c, sample, 191
- RegSetValueEx, Win32 SDK, 137
- regcomp.c, sample, 378, 379, 445
- regcomp, Unix-specific function, 379
- regerror.c, sample, 75
- regerror, Unix-specific function, 258
- regex, sample, 168
- regex.c, sample, 168, 260
- regexexec, C library, 260
- regexp.c, sample, 57
- register, keyword, 232
- registers, 268
- relational database, *see also* SQL
- relative error, 469
- release branch, 451
- release engineering, 4
- reliability, 5, 17, 153, 397, 419
- remote procedure call, 298
- repleceability, software, 7
- report generator, 25
- ReportEvent, Win32 SDK, 137
- representation, floating-point numbers, 472
- RequestInfoExample.java, sample, 321
- RequestParameterExistsAction.java, sample, 450
- RequestUtil.java, sample, 315

- requirement, project, 397
- `res_send.c`, sample, 89
- `res_send`, C library, 89
- `resend.c`, sample, 228
- resource leak, 36, 65
- resource, program, 320
- resource section, 71
- resource utilization, 7
- `ResourceBundle`, Java class, 320
- response for a class, 338
- response time, 151
- `ResponseBase.java`, sample, 64
- `Result.java`, sample, 81
- `ret`, stack structure, 264
- RetroGuard*, Java program, 282
- return value, 60
- return, keyword, 265
- reuse, class, 333, 335, 336
- reverse Polish notation, 355
- `RevertToSelf`, Win32 SDK, 139
- reviewability, software, 353, 397
- RFC, 338
- right-shift operator, 47
- rigidity, software, 403
- `ring.c`, sample, 361
- RISC, 216
- risk analysis, 101
- `rm.c`, sample, 371
- RMI, 189
- `rmtlib.c`, sample, 356
- robustness, 82
- robustness, application, 263
- robustness, code, 25, 432
- robustness, system, 17
- `root-path`, 129
- `round.c`, sample, 445
- rounding, 478
- `Row.java`, sample, 198
- RPC, 124
- `RpcImpersonateClient`, Win32 SDK, 134
- rpc.statd*, Unix-specific command, 242
- `RpcImpersonateClient`, Win32 SDK, 139
- RPN, 355
- `RTP.cpp`, sample, 278
- `rtquery.c`, sample, 77
- RTTI, 222
- Ruby, 182
- `run_test.pl`, sample, 28
- runtime error, 425
- runtime type information, 222, 223
- `RuntimePermission`, Java class, 142
- safety-critical software, 76, 397
- Samba, 103
- sampling, 163
- San Diego Supercomputer Center, 123, 149
- sandbox, 133
- SATA, 290
- `save.c`, sample, 153
- `savecore.c`, sample, 19, 20
- `sbrk`, Unix-specific function, 240
- scalability, system, 152
- `scanf`, C library, 20, 116
- `scanner.c`, sample, 18
- `scatter/gather`, 190
- scientific notation, 25
- SCM\_CREDS, Unix-specific identifier, 140
- SCM\_RIGHTS, Unix-specific identifier, 140
- `score.c`, sample, 405
- scoreboard, structure, 245
- screen real estate, *see* real estate
- `screen.c`, sample, 291
- scripting language, 211
- `ScriptTool`, Java class, 166
- `_scrsize`, 291
- Scrum, 4
- SCSI, 89, 290
- SDP, 347
- SDSC, 123
- security manager, 140
- security, software, 5, 101
- security vulnerability, 39
- `SecurityException`, Java exception, 140
- `SecurityManager`, Java class, 140
- `SecurityPermission`, Java class, 142
- security, sample, 104
- sed*, Unix-specific command, 166, 167, 310
- seed, random number, 122
- `seek`, Unix-specific function, 190
- segment register, 264

- segregated free list, 253
- select.2, sample, 132
- select, Unix-specific function, 131, 132, 186, 188, 189
- SelfTest.java, sample, 66
- SendMessage, Win32 SDK, 137
- send, Unix-specific function, 136, 183, 186, 187
- send, Win32 SDK, 137
- sendfile, Unix-specific function, 190
- sendmail, Unix-specific command, 39, 277
- sendmsg, Unix-specific function, 136, 140
- sendto, Unix-specific function, 136, 186, 187, 188
- separability, code modifications, 408
- separation, software changeability, 403
- sequence diagram, 12, 183
- sequential fit, 253
- SerializablePermission, Java class, 142
- server.cpp, sample, 26
- Server.h, sample, 393
- service capacity, 152, 207
- service, Windows, 125, 185
- ServicePermission, Java class, 142
- services, 449
- session.c, sample, 57
- set identifier, 317
- SetClipboardData, Win32 SDK, 137
- SetDlgItemText, Win32 SDK, 137
- SetNamedSecurityInfo, Win32 SDK, 138
- SetSystemPowerState, Win32 SDK, 139
- SetThreadToken, Win32 SDK, 134, 139
- SetAssignPrimaryTokenPrivilege, 102
- setegid, Unix-specific function, 114, 134
- seteuid, Unix-specific function, 114, 139
- setgid, 104
- setgroups, Unix-specific function, 114, 134
- SETI, 5
- setlocale, C library, 313, 318
- setproctitle, Unix-specific function, 118
- SettingsResourceBundle\_fr.java, sample, 363
- setuid, 102, 104
- setuid, Unix-specific function, 134, 139
- Seventh Edition Unix, 329, 388, 424
- sh.h, sample, 430
- sh, Unix-specific command, 120
- shared library, 184, 243, *see also* DLL
- shared memory, 241, 244
- shared secret, 123
- Shared Source Common Language Infrastructure, 275
- shell metacharacter vulnerability, 119, 128
- shell script, 131
- ShellExecuteEx, Win32 SDK, 119
- ShellExecute, Win32 SDK, 119
- shf.c, sample, 24, 297
- shm\_open, Unix-specific function, 244
- shmat, Unix-specific function, 137
- short-term memory, 351
- short, type, 211, 216
- show.c, sample, 276
- si, 25, 315
- SIGFPE, C identifier, 498, 499
- sign-conversion errors, 50
- signal, 60, 498
- signal.h, C library, 294
- signal.h, sample, 182
- signed, type, 51
- signposts, 449
- Sigplan Notices, 501
- SIGQUIT, Unix-specific identifier, 137
- Simian, 414
- SimpleDateFormat, Java class, 18
- SimpleDateFormat, Java class, 315
- SimpleProfiler.java, sample, 54
- simplicity, code, 153
- sin, C library, 180
- singleton, 55, 375
- size of data types, 296
- size\_t, C library, 294
- sizeof, keyword, 417
- sizeof, operator, 215
- sleep, Unix-specific function, 79
- Sleep, Win32 SDK, 79
- slices (disk partitions), 385
- smival.h, sample, 37
- snapshot (backup copy), 91
- snprintf, C library, 116, 167
- SOAP, 189

- social-engineering attack, 125
- SOCK\_Dgram.cpp, sample, 279
- SocketPermission, Java class, 142
- socket, Unix-specific function, 186, 187
- sockets, 298
- soft real-time systems, 152
- soft updates, 236
- software
  - adaptability, 7
  - efficiency, 5
  - functionality, 5
  - installability, 7
  - maintainability, 7
  - portability, 7
  - reliability, 5
  - replaceability, 7
  - usability, 5
- software analyzability, 7, 325, 351
- software maintenance, *see* maintenance
- software performance antipatterns, 204
- software performance engineering, 154, 204
- SOL\_SOCKET, Unix-specific identifier, 140
- Solaris, 294, 316
- sort, Java method, 403
- sort, Unix-specific command, 239
- source code real estate, *see* real estate
- source examples, *see* example source
- SourceHandlerImpl.java, sample, 55
- space performance, 207, *see also* performance
- space probe, 1, 90
- space redundancy, 87
- space requirements, 208, 438
- SPARC, 215, 230, 268, 289, 298, 473
- SPARC-64, 210
- spawnlp, Win32 SDK, 119
- spawnv, Win32 SDK, 121
- spawnvp, Win32 SDK, 119
- special case, performance optimization, 153
- speed, *see* performance
- Splint, 146, 149
- spp\_usrreq.c, sample, 221
- spreadsheet, 492
- \_\_sprint, Unix-specific function, 167
- sprintf, C library, 116, 167
- SQL, 126, 142, 179
- SQL injection attack, 126
- SQLPermission, Java class, 142
- sqrt, function, 477, 489, 496
- svr\_nfs.c, sample, 429
- svrsmtp.c, sample, 39
- sscanf, C library, 116
- SSL, 128, 142
- SSLPermission, Java class, 142
- SString.cpp, sample, 179
- st\_blocks, Unix-specific identifier, 294
- st\_rdev, Unix-specific identifier, 294
- stability, software, 7, 326, 418
- stable dependencies principle, 347
- stable package, 345
- stable unit, 433
- stack, 107, 229, 264
- stack frame, 108, 265, 279
- stack pointer, 264
- stack-smashing, 111
- stackbottom.c, sample, 262
- stamp coupling, 378
- standard input, 242
- Standard Template Library, *see* STL
- StandardClassLoader.java, sample, 62, 414
- StandardContext.java, sample, 39, 357
- StandardPipeline.java, sample, 412
- standards, *see* guidelines
- StandardWrapper.java, sample, 373
- starvation, concurrent operations, 51
- stat, Unix-specific function, 162
- state machine, 18
- statfs, Unix-specific function, 135
- static analysis, 60
- static analysis tool, 45
- static coupling, 409
- static, Java keyword, 262, 357
- static, keyword, 196, 421
- static, type, 228
- statistics.c, sample, 495
- stdarg.h, C library, 298
- stdio, 24
- stdio.h, sample, 201, 276
- stdio, C library, 201, 388
- sticky bit, 472
- STL, 26, 28, 214, 276, 402

- stoc.c, sample, 368
- strace, Unix-specific command, 160, 161, 162
- strategy, 31, 410
- strcasecmp, Unix-specific function, 370
- strcat, C library, 116, 117
- strchr, C library, 171
- strcmp, C library, 180, 370
- strcol, C library, 294
- strcoll, C library, 315
- strcpy, C library, 115, 116, 117, 130, 394
- strcpy, Unix-specific function, 146
- strdup, C library, 36
- \_\_sterror.c, sample, 316
- strftime, C library, 313
- stricmp, Win32 SDK, 370
- strictfp, Java keyword, 485, 494
- StringManager.java, sample, 63
- strip, Unix-specific command, 242, 281
- strlcat, Unix-specific function, 116
- strlcpy, Unix-specific function, 116
- strlen.c, sample, 404
- strncat, C library, 116
- strncpy, C library, 116
- strtod.c, sample, 475
- strtok.c, sample, 381
- strtok, C library, 381
- strtol, C library, 291
- struct, keyword, 79
- struct, type, 214, 222
- structural testing, 433
- structure packing, 218, 303
- structured programming, 387
- Structured Query Language, *see* SQL
- style guide, *see* guidelines
- style in program readability, 352
- style, sample, 234
- subclass, 277
- SubjectDelegationPermission, Java class, 142
- subr\_prf.c, sample, 91
- subtyping polymorphism, 277, 406
- suitability in software's functionality, 5
- Sun, 316
- sunGX.c, sample, 48
- superblock, 87
- supercomputer, 234
- supermodel, 123
- superuser, 125, 130, 136, 138, 145, 146
- supplementary material, 14
- svgaInit.c, sample, 446
- swap area, 238
- swap space, 238
- swapon, Unix-specific function, 238
- swill, 172
- Swing, 308
- switch, keyword, 328, 367, 370, 371, 447
- swt, 308
- synchronization, 52
- synchronizedMap, Java method, 55
- synchronized, Java keyword, 52, 55
- synchronous writes, 236
- sys, sample, 452
- sys\_generic.c, sample, 132
- sys\_term.c, sample, 125, 180, 257
- syslog, Unix-specific function, 115, 118, 449
- syslogd, Unix-specific command, 186
- system testing, 432, 439
- system time, 157
- system-level undo, 100
- System.Double, 473
- System.gc, Java method, 246
- System.Single, 473
- system, C library, 119, 120, 121, 229
- systemtime.c, sample, 450
- SysV/386, 481
- t1malloc.c, sample, 247
- t1test.c, sample, 370
- t, sample, 440
- TabConstraints.java, sample, 359
- Table Maker's Dilemma, 471
- table.java, sample, 92
- tables.c, sample, 201
- tail recursion, 273
- tail, Unix-specific command, 242, 310
- tainted, variable, 146
- tao\_ifr.cpp, sample, 29
- tape.c, sample, 22, 61, 93
- target.cpp, sample, 37
- tasklist, Windows-specific command, 104, 246

- taskmgr*, Windows-specific command, 157
- tc2.c*, sample, 51
- \_TCHAR, Win32 SDK, 312
- Tcl, 182
- Tcl/Tk, 308
- TCP, 298
- TCP/IP, 65
- tcp\_input.c*, sample, 235, 366
- tcpd*, Unix-specific command, 130
- tcpdump.c*, sample, 152
- tcpdump*, Unix-specific command, 152, 160, 161
- TDD, 4
- telnet, 125
- telnetd.c*, sample, 419
- telnetd*, Unix-specific command, 125
- template, 276, 449
- template method, 410
- template specialization, 397
- tempnam*, Unix-specific function, 121
- temporal coupling, 381
- temporary files, 121
- TERMCAP, environment variable, 126
- test cases, 433
- test coverage analysis, 60, 441, 443
- test data, 438
- test driver, 434, 437
- test harness, 437, 440
- test plan, 433
- test stub, 437, 438
- test suite, 434, 439
- Test-Driven Design, 4
- testability, 7, 326, 432, 442
- testing, 31, 302
- TestRunner, 434
- Texas Instruments, 269
- text (compiled code), 228
- Text.c*, sample, 310
- textdomain*, Unix-specific function, 318
- tftp.c*, sample, 154
- tftpd.c*, sample, 134
- tftpd*, Unix-specific command, 134
- tgamma*, C library, 496
- this*, keyword, 74
- thousands\_sep*, C library, 314
- thrashing, 193, 194, 205, 233
- thread, 51
- throughput, 151
- Throwable, Java class, 46
- time, 313
- time behavior, 7
- time performance, 151, 438, *see also* performance
- time variability, 152
- time-of-check-to-time-of-use, 112
- time-to-live, 131
- time.h*, sample, 79
- time*, sample, 157
- time*, Unix-specific command, 157, 158, 160
- Timer\_Heap\_T.h, sample, 178
- Timing attacks, 124
- TIOCGWINSZ, Unix-specific identifier, 292
- tip*, Unix-specific command, 172
- Tk, 308
- tm, Unix-specific identifier, 294
- TMparse.c*, sample, 153
- tmpfile*, C library, 115, 121, 122
- tmpnam*, C library, 121
- tmpnam*, Unix-specific function, 121
- TMS-34010, 221
- TOCTTOU, 112, 149
- tokenizer, 18
- tolower.c*, sample, 428, 429
- Tomcat, 344, 410
- tools, 14
- top-down analysis, 405
- top-down testing, 437
- top*, Unix-specific command, 157
- topological sort, 272
- toString*, Java class, 22
- toString*, Java method, 480
- toupper*, C library, 291
- Towers of Hanoi, 255
- traceability, software, 352, 397, 445
- tracer, 166
- traceroute*, sample, 131
- traceroute*, Unix-specific command, 131, 133
- tracert*, Windows-specific command, 131
- tracing, 352
- train wrecks, 409

- TranformerHandler, Java interface, 395
- TransactNamedPipe, Win32 SDK, 137
- transaction, 92
- transaction-monitor, 52
- transient fault, 89
- transitive closure, 338
- translation compendium, 320
- translation memory, 320
- TransmitCommChar, Win32 SDK, 137
- trap.c, sample, 71, 448
- traverse.c, sample, 93
- tree.c, sample, 498
- Tree.java, sample, 76
- triangle area, 491, 494
- TriggerDef.java, sample, 53
- trivially parallelizable compilation, 454
- Trojan horse, 143, 433
- truss*, Unix-specific command, 160
- trustworthiness, software, 397
- try, Java keyword, 46, 67
- tsort.c, sample, 272, 277
- tsort*, Unix-specific command, 269, 272, 277
- tty\_tb.c, sample, 194
- ttyname, Unix-specific function, 124
- type
  - byte, 49
  - char, 51, 211, 309
  - const, 228
  - double, 212, 466, 473, 474, 477, 492
  - float, 212, 466, 473, 474, 493
  - int, 211, 216, 225
  - long double, 466, 473
  - long, 211
  - pure virtual, 223
  - short, 211, 216
  - signed, 51
  - static, 228
  - struct, 214, 222
  - unsigned char, 49
  - unsigned, 51
  - void, 20, 61, 62
  - volatile, 213
  - wchar\_t, 210
- type checking, 419
- type information, 222
- type mismatch, 73
- type signature, 57
- type size, 296
- type-checking, 425
- type1.c, sample, 486
- typedef, keyword, 79, 222
- typographical conventions, 10
- UDP, 189, 190
- uhareg.h, sample, 220
- ULP, 469, 472, 482
- Ultra-DMA, 159
- Ultrix, 302
- UML, xxvii, 400, *see also* diagram
- Unbounded\_Queue.cpp, sample, 74
- Unbounded\_Set.cpp, sample, 407
- Unbounded\_Set.h, sample, 407
- uncache, 208
- uncaching, 238
- underflow, 49, 483
- understandability, software, 5
- unexpected effects, 418
- Unicode, 80, 309
- \_UNICODE, Win32 SDK, 312
- UNICODE, Win32 SDK, 312
- unifdef.c, sample, 79
- Unified Modeling Language, *see* UML
- Uniforum, 316
- union, keyword, 298, 477
- uniq*, Unix-specific command, 310
- Unit in the Last Place, *see* ULP
- unit testing, 432, 433
- unit tests, 337
- Unix, xxviii
- Unix-specific command
  - amd*, 83, 431
  - autoconf*, 294, 323
  - awk*, 248, 269, 294, 310
  - banner*, 69, 117
  - bc*, 477, 488
  - bind*, 188
  - cat*, 152, 184, 269, 310, 316
  - cmp*, 242
  - configure*, 293
  - cp*, 158, 241



- csh*, 396
- dc*, 355
- dhclient*, 128, 131
- diff*, 310
- dirace*, 160, 205
- du*, 421
- dump*, 22, 93, 329
- echo*, 310, 441
- ed*, 383
- ethereal*, 160
- ex*, 242
- fdisk*, 385
- find*, 14, 166
- finger*, 277
- fsck*, 88
- fstat*, 104, 246
- ftp*, 109
- ftpd*, 107
- gcc*, 44, 57, 269, 280, 441, 453, 481, 485, 486
- gcov*, 441, 443
- gencat*, 317
- gprof*, 164, 167, 170, 171, 205
- grep*, 14, 146, 259, 451
- head*, 310
- indent*, 354, 463
- init*, 136, 257, 277
- install*, 269, 271, 272, 281, 294
- iostat*, 159
- ipresend*, 228
- join*, 310
- lex*, 18
- lint*, 20, 21, 99, 450
- ln*, 294
- logger*, 186
- logresolve*, 160, 161
- look*, 242
- lp*, 422
- lpc*, 422
- lpd*, 422
- lpq*, 422
- lpr*, 422
- lprm*, 422
- ls*, 33, 162, 195, 313, 424
- lsof*, 104, 246
- ltrace*, 160, 167, 171, 172
- lynx*, 318, 321
- make*, 191, 192, 454, 455
- makedepend*, 453
- metaconfig*, 294
- mkdep*, 453
- more*, 30
- mount*, 447
- msgfmt*, 320
- msgmerge*, 320
- mt*, 427
- netstat*, 104, 159, 161
- newsf*, 87
- nfsstat*, 159
- nm*, 230
- nvi*, 91, 239
- objdump*, 230
- oprofile*, 164
- paste*, 171
- pax*, 40
- phantasia*, 478
- ping*, 187, 188, 189
- pppd*, 112, 113, 114
- ps*, 137
- ranlib*, 294
- rpc.statd*, 242
- sed*, 166, 167, 310
- sendmail*, 39, 277
- sh*, 120
- sort*, 239
- strace*, 160, 161, 162
- strip*, 242, 281
- syslogd*, 186
- tail*, 242, 310
- tcpd*, 130
- tcpdump*, 152, 160, 161
- telnetd*, 125
- ftpd*, 134
- time*, 157, 158, 160
- tip*, 172
- top*, 157
- traceroute*, 131, 133
- truss*, 160
- tsort*, 269, 272, 277
- uniq*, 310

- vacation*, 277
- vi*, 277
- vmstat*, 159
- x2p*, 367
- xargs*, 310
- xlint*, 242
- yacc*, 18
- Unix-specific function
  - \_\_sprint, 167
  - access, 113, 114, 115, 121
  - acct, 138
  - aio\_write, 136
  - alloca, 273, 294
  - catclose, 317
  - catgets, 316, 317
  - catopen, 316
  - chmod, 112, 113
  - chroot, 133, 147
  - close, 66, 183, 184, 189, 195, 291
  - closedir, 291, 424
  - connect, 186, 187
  - crypt, 123
  - curses, 294
  - cuserid, 124
  - db, 214, 277, 286
  - dbm, 294
  - dirent.h, 294
  - dlopen, 119
  - drand48, 122
  - err, 118, 258
  - errx, 118
  - exec, 114
  - execlp, 119
  - execv, 121
  - execvp, 119
  - fchdir, 113, 116
  - fchflags, 113
  - fchmod, 112, 113
  - fchown, 113
  - fcntl, 427
  - feenableexcept, 499
  - fgets, 116
  - flock, 295
  - fmtcheck, 119
  - fork, 93, 121, 139
  - fstat, 112, 113, 162
  - fstatfs, 113
  - ftruncate, 113
  - futimes, 113
  - getcwd, 116
  - getdate, 18
  - getdents, 424
  - getlogin, 124
  - getnetbyname, 128
  - getopt, 30, 115
  - getpass, 115, 136
  - getpgr, 294
  - getpwuid, 195, 196
  - getsockname, 82
  - gettext, 316, 317, 318
  - getwd, 116
  - htonl, 300
  - htons, 300
  - humanize\_number, 25
  - ioctl, 291, 294, 426, 427
  - kill, 447
  - lstat, 162
  - mcount, 171, 172
  - mkstemp, 121, 122
  - mktemp, 121
  - mmap, 137, 241, 242, 244, 294
  - mp, 50, 294
  - ntohl, 300
  - ntohs, 300
  - open, 114, 116, 143, 183, 184, 189, 195, 291, 295
  - opendir, 424
  - pipe, 121
  - poll, 189
  - popen, 119, 120, 121, 125
  - pthread\_rwlock\_\*, 55
  - pthread\_barrier\_\*, 55
  - pthread\_cond\_\*, 55
  - pthread\_mutex\_\*, 55
  - pwcache, 195
  - pwrite, 136, 190
  - random, 122
  - read, 93, 183, 189, 195, 291
  - readdir, 424
  - readv, 190

- recv, 183, 186
- recvfrom, 186, 187, 188
- recvmsg, 140
- regcomp, 379
- regerror, 258
- sbrk, 240
- seek, 190
- select, 131, 132, 186, 188, 189
- send, 136, 183, 186, 187
- sendfile, 190
- sendmsg, 136, 140
- sendto, 136, 186, 187, 188
- setegid, 114, 134
- seteuid, 114, 139
- setgroups, 114, 134
- setproctitle, 118
- setuid, 134, 139
- shm\_open, 244
- shmat, 137
- sleep, 79
- socket, 186, 187
- stat, 162
- statfs, 135
- strcasecmp, 370
- strcpy, 146
- strlcat, 116
- strncpy, 116
- swapon, 238
- syslog, 115, 118, 449
- tempnam, 121
- textdomain, 318
- tmpnam, 121
- ttyname, 124
- user\_from\_uid, 195, 196
- vfork, 294
- wait.h, 294
- wait4, 145, 146
- wait, 121
- warn, 118
- warnx, 118
- write, 22, 24, 61, 136, 183, 185, 190, 241, 291
- writev, 136, 185, 186, 190
- xgettext, 318
- Unix-specific identifier
  - AF\_Unix, 140
  - EFAULT, 143
  - ENOENT, 143
  - EPERM, 139
  - gid\_t, 294
  - mode\_t, 294
  - MTIOCGET, 427
  - MTIOCRDHPPOS, 427
  - MTIOCRDSPPOS, 427
  - MTIOCTOP, 427
  - pdp11, 296
  - pid\_t, 294
  - SCM\_CREDS, 140
  - SCM\_RIGHTS, 140
  - SIGQUIT, 137
  - SOL\_SOCKET, 140
  - st\_blocks, 294
  - st\_rdev, 294
  - TIOCGWINSZ, 292
  - tm, 294
  - unnecessary functionality, 37
  - unpack, Perl function, 82
  - UnresolvedPermission, Java class, 142
  - unsigned char, type, 49
  - unsigned, type, 51
  - unstable package, 344
  - unused elements (cache), 199
  - upcast, 425
  - update.c, sample, 368
  - URI, 175
  - URL, 64
  - URLTestCase.java, sample, 434
  - US, 315
  - US-ASCII, 312
  - usability, software, 5, 8
  - user time, 157
  - user\_from\_uid, Unix-specific function, 195, 196
  - using, keyword, 75
  - UTF-16, 312
  - UTF-16BE, 312
  - UTF-16LE, 312
  - UTF-8, 80, 310, 312
  - util.c, sample, 64, 119, 277, 380
  - util.logging, Java package, 449

- util\_uri.c, sample, 175
- utils.c, sample, 241
- utl\_labellist.cpp, sample, 305
- uudecode.c, sample, 20
  
- vacation.c, sample, 277
- vacation, Unix-specific command, 277
- valgrind (memory profiler), 254
- validate.cpp, sample, 276
- validate.dat, sample, 438
- Valve.java, sample, 411
- var.c, sample, 212, 232, 373
- variable-space requirements, 208
- variable-width, 309
- VAX, 300
- vector, 26
- vector, C++ library, 76
- Vector, Java class, 76
- version control system, 452
- vfork, Unix-specific function, 294
- vfprintf.c, sample, 313
- vfprintf, C library, 167, 168, 294, 298
- vfs\_cache.c, sample, 199
- vfs\_subr.c, sample, 139, 377
- vfscanf, C library, 116
- VGA, 153, 219
- vga.c, sample, 50, 244, 416, 417
- vga.h, sample, 219
- vga\_isa.c, sample, 416
- vgaFasm.h, sample, 153
- vi, Unix-specific command, 277
- vidconsole.c, sample, 355
- video buffer, 244
- video graphics adapter, 219
- virtual address space, 227
- virtual function table, 222
- virtual memory, 192, 227
- virtual memory map, 264
- virtual method, 179, 222
- virtual table, 223
- VirtualAllocEx, Win32 SDK, 241
- viscosity, 403
- viscosity, code, 419
- visitor, 462
- visitor pattern, 410
  
- Visual ..., *see* Microsoft ...
- vm\_page.c, sample, 192
- vm\_pageout.c, sample, 199
- VMS, 388
- vmstat, sample, 159
- vmstat, Unix-specific command, 159
- void, keyword, 305
- void, type, 20, 61, 62
- volatile, Java class, 55
- volatile, Java keyword, 56
- volatile, keyword, 232
- volatile, type, 213
- vscanf, C library, 116
- vsprintf, C library, 116
- vsprintf, C library, 116
- vtbl, 223
  
- wait.h, Unix-specific function, 294
- wait4, Unix-specific function, 145, 146
- wait, Java method, 52, 54, 55
- wait, Unix-specific function, 121
- walk.c, sample, 367
- wall clock time, 151, 157, 189
- warn, Unix-specific function, 118
- warnx, Unix-specific function, 118
- WarpConnector.java, sample, 56
- wc.cc, sample, 36
- wc.h, sample, 36
- wchar\_t, keyword, 310, 312
- wchar\_t, type, 210
- wcscat, C library, 310
- wcscmp, C library, 310
- wcscpy, C library, 310
- wcslen, C library, 310
- wcstombs, C library, 310
- wctomb, C library, 310
- wds.c, sample, 213
- WebObjects, 434
- WebappClassLoader.java, sample, 414
- WebServerConnection.java, sample, 60, 340
- weighted methods per class, 333
- Western Digital, 87
- while, keyword, 328, 368
- white-box testing, 433
- whitelisting, 126

- wide character, 309
- WildcardSessionAttribute-
  - MatcherFactory.java, sample, 357
- WinExec, Win32 SDK, 119
- Win32, 58, 59, 312
- Win32 API, 58, 59, 100
- Win32 SDK
  - \_TCHAR, 312
  - \_UNICODE, 312
  - CloseFile, 291
  - CreateFile, 189, 295
  - GetConsoleScreenBufferInfo, 291
  - GetLocaleInfo, 315
  - GetMessage, 189
  - HeapAlloc, 240
  - LoadLibrary, 320
  - LoadString, 320
  - lParam, 427
  - LZCopy, 137
  - OpenFile, 291
  - PeekMessage, 189
  - ReadFile, 291
  - RpcImpersonateClient, 139
  - send, 137
  - Sleep, 79
  - spawnlp, 119
  - spawnv, 121
  - spawnvp, 119
  - strcmp, 370
  - UNICODE, 312
  - WriteFile, 291
  - AfxLoadLibrary, 119
  - BackupWrite, 137
  - CharToOem, 116
  - CoImpersonateClient, 134
  - CompareString, 315
  - CopyFile, 137
  - CreateMailslot, 137
  - CreateProcess, 119, 139
  - CREATESTRUCT, 427
  - CreateEnhMetaFile, 137
  - CreateFileMapping, 137, 241, 245
  - CreateFileMapping, 241
  - CreateProcessAsSuser, 139
  - CreateProcessAsUser, 104, 119
  - CreateRestrictedToken, 139
  - CryptCreateHash, 124
  - CryptGenRandom, 123
  - DdeAddData, 137
  - DdeImpersonateClient, 139
  - DrawState, 58, 59
  - DrawText, 137
  - FormatMessage, 118
  - GetCurrentFormat, 315
  - GetDateFormat, 315
  - GetFileSecurity, 139
  - GetFileSize, 59, 60
  - GetFileSizeEx, 59
  - GetLastError, 64
  - GetLocaleInfo, 315
  - GetNumberFormat, 315
  - GetTimeFormat, 315
  - HeapFree, 240
  - ImpersonateDdeClientWindow, 134
  - ImpersonateNamedPipeClient, 134
  - ImpersonateSelf, 134
  - ImpersonateAnonymousToken, 134
  - ImpersonateLoggedOnUser, 134, 139
  - ImpersonateNamedPipeClient, 139
  - ImpersonateSecurityContext, 134
  - INVALID\_HANDLE\_VALUE, 245
  - LoadLibrary, 119
  - LoadLibraryEx, 119
  - MapViewOfFile, 241, 245
  - MessageBox, 137
  - NetJoinDomain, 139
  - NetMessageBufferSend, 137
  - OemToChar, 116
  - OpenProcessToken, 139
  - RegSetValueEx, 137
  - ReportEvent, 137
  - RevertToSelf, 139
  - RpcImpersonateClient, 134
  - SendMessage, 137
  - SetClipboardData, 137
  - SetDlgItemText, 137
  - SetNamedSecurityInfo, 138
  - SetSystemPowerState, 139
  - SetThreadToken, 134, 139
  - ShellExecute, 119

- ShellExecuteEx, 119
- TransactNamedPipe, 137
- TransmitCommChar, 137
- VirtualAllocEx, 241
- WinExec, 119
- WM\_CREATE, 427
- WM\_ENDSESSION, 427
- WM\_QUERYENDSESSION, 427
- WriteFile, 24, 137
- WritePrinter, 137
- WriteConsoleOutput, 137
- Win32FilePeer.cpp, sample, 59
- Win32FileStream.cpp, sample, 60
- Win9xConHook.c, sample, 58, 426
- Wind/U, 308
- Windows ..., *see* Microsoft Windows ...
- Windows platform API, 426
- Windows-specific command
  - apispy*, 160, 161
  - cmd*, 120
  - command*, 120
  - dumpbin*, 230, 246
  - netstat*, 104
  - perfmon*, 159
  - Process Explorer*, 104
  - tasklist*, 104, 246
  - taskmgr*, 157
  - tracert*, 131
  - windump*, 160
- windump*, Windows-specific command, 160
- WM\_CREATE, Win32 SDK, 427
- WM\_ENDSESSION, Win32 SDK, 427
- WM\_QUERYENDSESSION, Win32 SDK, 427
- WM\_MOTIF, 308
- WMC, 333
- Word, *see* Microsoft Word
- working set, 234, 235
- workload characterization, 157
- workspace register, 269
- worm.c, sample, 354
- worst-case complexity, 174
- wprintf, C library, 310
- WriteConsoleOutput, Win32 SDK, 137
- WriteFile, Win32 SDK, 24, 137
- WritePrinter, Win32 SDK, 137
- write, Unix-specific function, 22, 24, 61, 136, 183, 185, 190, 241, 291
- WriteFile, Win32 SDK, 291
- writetv, Unix-specific function, 136, 185, 186, 190
- wscanf, C library, 310
- wxWindows, 308
- X Image Extension, 176
- X Window System, 137, 153, 187, 215, 244, 307, 398, 438
- X Window System library, StringToKeySym, 153
- X/Open Portability Guide Issue 4, 316
- x2p*, Unix-specific command, 367
- x86-64, 210
- xalloc.c*, sample, 438
- xargs*, Unix-specific command, 310
- xcalc.c*, sample, 499
- xcmisc.c*, sample, 27
- XDR, 299
- Xerces, 350
- xf86bcache.c*, sample, 199
- xf86Beta.c*, sample, 360
- xf86Config.c*, sample, 153
- xgettext, Unix-specific function, 318
- xieperf.h*, sample, 79
- xinstall.c*, sample, 271
- Xl1cint.h*, sample, 302
- Xlib.h*, sample, 215
- xlint*, Unix-specific command, 242
- XML, 18, 82, 94, 147, 153
- XMLByteStreamCompiler.java, sample, 80, 355
- Xm1Mapper.java, sample, 75, 214
- XMS, 237
- XP, 4
- XPG4, 316
- xref.c*, sample, 360
- XSLT, 434
- XSPUtil.java, sample, 56
- Xt, 153
- xwud.c*, sample, 212
- XXX, 432

*yacc*, Unix-specific command, 18  
year 2038 problem, 49  
*yes.c*, sample, 11  
ying and yang (elements of computation), 5  
*yperr\_string.c*, sample, 75  
*yplib.c*, sample, 439  
*zic.c*, sample, 318, 360  
zone of pain, packages, 349  
zone of uselessness, packages, 349  
*zutil.h*, sample, 292