

Index

& (ampersand character), 198
 + (continuation character), 491
 + (plus sign), 447
 < (shift left) symbol, 432
 > (greater-than symbol), 193
 > (shift right) symbol, 432
 - (hyphen), 198, 200
 % wildcard character, 385, 386
 _ wildcard character, 385
 || (concatenation operation), 379
 64-bit PowerPC RISC processors, 66

A

Access path maintenance, 261–262
 delayed, 262
 immediate, 261
 rebuild, 262
 specifying, 261–262
 Access paths, 243–247
 alternate, 247–250
 arrival-sequence, 243–244
 defined, 243
 with immediate maintenance, 261
 keyed-sequence, 244–247, 275
 Active jobs, 516
 Active records, 443
 Add New Record verification screen, 441–442
 Add New Users screen, 327–328
 accessing, 325
 illustrated, 325
 Additional Message Information screen, 56–57,
 343, 513
 displaying, 56
 illustrated, 57, 343
 printer PRT02, 106
 ADDLIBLE (Add Library List Entry) command, 73–74
 defined, 73
 prompt screen, 73
 ADDPFCST (Add Physical File Constraint) com-
 mand, 321–322
 format, 321
 referential constraint removal, 322
 Advanced Server RISC-powered AS/400s, 67
 ALL keyword, 254–255
 *ALLOBJ special authority, 326, 330
 defined, 330
 granting, 326
 See also Authorities; Special authorities
 Allocation values, 4
 AND operation, 253
 Appearance attributes, 431
 Application Development Tools (ADT), 18
 Application Development ToolSet (ADTS), 128, 172
 Arithmetic operators, 211
 Arrival-sequence access paths, 243–244
 defined, 243
 record reading methods, 244
 See also Access paths

AS/400 Main Menu–Help, 53
 AS/400 SQL Reference, 380
 AS/400 Tips and Tools for Securing Your AS/400, 332
 Assistance levels, 110–112
 Basic, 105, 110, 111, 116, 118
 defined, 110
 Intermediate, 105, 110, 115, 116, 118, 119, 120
 selecting, 115
 Attribute bytes, 430–431
 * in, 432
 defined, 430
 Attribute commands
 appearance, 431
 color, 431
 common, 431
 defined, 430
 keying, 431
 positioning control, 431
 using, 433–435
 Attributes
 appearance, 431
 CL variable, 488
 color, 431
 defined, 83
 field, 432–433, 457
 positioning, 431
 specifying, 431–432
 See also Assistance levels
 Audit control, 360–361
 defaults, 361, 418
 defining, 360–361
 Audit reports, printing, 359
 Authorities
 *CHANGE, 330, 331, 346–347
 data, 323
 explicit, 326, 328
 hierarchy, 331
 levels, 328
 list-management, 329
 object, 322–323
 object owners and, 332
 private, 328, 332
 public, 328, 329, 331
 *USE, 328, 329, 331
 See also Security; Special authorities
 Authorization lists, 328–329
 creating, 328
 defined, 328
 library secured by, 329
 members, 329
 performance and, 332
 users not on, 331
 using, 332
 varying authority levels and, 332
 See also Security
 Auto-duplicate feature, 362, 364

B

Bachman diagram
 defined, 216
 illustrated, 216, 380
 Based-on logical files, 318–319
 information, 310

relationship, 335
See also Logical files

Basic assistance level, 110–111
 Change Printer Output screen, 111, 116
 Work with Messages screen, 167
 Work with Printer Output screen, 111
 Work with Printers screen, 105, 118
 See also Assistance levels

Batch jobs
 defined, 2
 end indication, 166
 failure, 295
 submitting, 2
 See also Jobs

Batch subsystems, 2

*BCAT operation, 501–502

BookManager Library Reader program, 13

Bookshelves
 defined, 13
 display, 14
 list, 14
 See also InfoSeeker

C

Calculated fields, 300

CALL command, 427
 object type, 69
 running program interactively with, 515

*CAT operation, 501

*CHANGE authority, 330, 331, 346–347

Change a Data File screen, 371–372, 404
 accessing, 371
 illustrated, 372

Change Printer Output screen
 accessing, 113
 Basic assistance level, 111, 116
 extended Help, 114
 illustrated, 114

Change Session Defaults screen, 287

Character fields, 126

 declaring, 447
 size definition, 209

CHGCURLIB (Change Current Library) command,
 71–72, 79

 ALLUSER specification, 72
 defined, 71
 prompt screen, 72
 required parameters, 72

CHGDTA (Change Data) command, 435, 436
 defined, 435
 prompt screen, 436

CHGJOB (Change Job) command, 508

CHGLIB (Change Library) command, 324

CHGLIBL (Change Library List) command, 59–60,
 74–75, 508
 defined, 74
 prompt screen, 60, 74

CHGPF (Change Physical File) command, 320–322
 additional parameters, 322
 advantages, 320–321, 345
 defined, 320

- functions, 320
- Physical file name parameter, 320
- prompt screen, 321
- Remove constraint parameter, 321–322
- required parameters, 320
- Source file parameter, 320, 345
- Source member parameter, 320, 345
- using, 320–321
- CHGPGP (Change Primary Group) command, 331
- CHGPRF (Change Profile) command, 93, 508
 - Assistance level parameter, 119
 - Output queue parameter, 93, 115
 - prompt screen, 55
 - User options parameter, 323
- CHGPRTF (Change Printer File) command, 97–98
 - parameters, 98
 - screen, 98
- CHGSPLFA (Change Spooled File Attributes) command, 100, 107–110
 - Intermediate assistance level, 116
 - Library parameter, 109
 - Output priority parameter, 110
 - Output queue parameter, 109
 - Printer parameter, 109
 - prompt screen, 112
 - screen access, 107
 - screen example, 109
 - screen illustration, 108
 - second screen, 110
 - User data parameter, 110
- CHGUSRPRF (Change User Profile) command, 55, 331
- CHGVAR (Change Variable) command, 489–490
 - defined, 489
 - required parameters, 489
 - summary, 489
 - uses, 489–490
 - working right to left, 513
- CHGWTR (Change Writer) command, 99–100
- CL command list
 - ADDLIBLE, 73–74
 - ADDFPCST, 321–322
 - CALL, 69, 427, 515
 - CHGCURLIB, 71–72, 79
 - CHGDTA, 435, 436
 - CHGJOB, 508
 - CHGLIB, 324
 - CHGLIBL, 59–60, 74–75, 508
 - CHGPF, 320–322
 - CHGPGP, 331
 - CHGPRF, 55, 93, 508
 - CHGPRTF, 97–98
 - CHGSPLFA, 100, 107–110, 116
 - CHGUSRPRF, 55, 331
 - CHGVAR, 489–490, 513
 - CHGWTR, 99–100
 - CLRMSGQ, 515
 - CLROUTQ, 45–46
 - CPYF, 297, 313–316, 333, 373
 - CRTAUIL, 328
 - CRTCBLPGM, 78
 - CRTCLPGM, 505
 - CRTDEVPRF, 81, 99
 - CRTDUPOBJ, 313, 333
 - CRTLFL, 260
 - CRTLILB, 9, 10, 11, 78
 - CRTMSGF, 465
 - CRTOUTQ, 79, 82
 - CRTPF, 165
 - CRTPRTF, 81, 97
 - CRTSRCPF, 159, 303, 505, 507
 - CRTUSRPRF, 67
 - DCL, 488–489
 - DCLF, 486–488
 - DSPDDBR, 308–309
 - DSPDEVD, 91
 - DSPDTA, 405
 - DSPFD, 87, 169, 309
 - DSPFFD, 124, 125–126, 170, 181, 311, 337–338, 510
 - DSPLIBL, 60, 70–71, 93
 - DSPMSG, 167, 181, 337, 459, 500
 - DSPOBJD, 68, 168, 509
 - DSPPFM, 227, 244, 316
 - DSPSYSVAL, 49
 - DSPUSRPRF, 48, 68
 - EDTAUIL, 328–329
 - EDTLIBL, 75–77
 - EDTOBJAUT, 322, 348
 - ELSE, 491
 - GO, 46–49
 - GOTO, 482, 484
 - GRTOBJAUT, 324
 - IF, 482, 490–493
 - MONMSG, 514
 - OVRDBF, 318
 - RCVF, 494–495
 - RCVMSG, 515
 - RETURN, 505
 - RMVLIBLE, 74
 - RNMOBJ, 130
 - RUNQRY, 188, 236, 316, 345
 - SBMJOB, 516
 - SIGNOFF, 438, 469
 - SNDBRKMSG, 496, 497, 499
 - SNDF, 493, 494
 - SNDMSG, 496, 515
 - SNDPGMMMSG, 496, 497, 499, 512, 513
 - SNDRCVF, 494, 495
 - STRDFU, 172, 354
 - STRPDM, 128–129
 - STRQRY, 188
 - STRSDA, 426
 - STRSEU, 136, 159–160
 - STRSQL, 406
 - UPDDTA, 349, 420
 - WRKACTJOB, 516
 - WRKMBRPDM, 161
 - WRKOBJPDM, 128, 132, 167, 235, 326
 - WRKOUTQ, 97, 101–106, 176
 - WRKPRB, 18
 - WRKQRY, 188, 470
 - WRKSPLF, 97, 106–107
 - WRKUSRJOB, 84, 89
- CL commands, 3, 35
 - default values, 11
 - defined, 3
 - entering, 3
 - error-testing, 481
 - file-processing, 481
 - library list, 70–77
 - modifiers, 37–38
 - names, 36–38
 - nouns, 37–38
 - required parameters, 11
 - structure, 36
 - using, 35
 - verbs, 36–37
- See also* CL command list; Control Language
- CL programs, 3
 - advantages, 481–482
 - body of, 484
 - concatenation and, 501–502
 - creating, 505–506
 - DCL statements, 484
 - DCLF statement, 484
 - debugging, 481–482
 - designing, 484–485
 - ENDPGM statement, 484
 - entering, 485–502
 - file declaration, 486–488
 - file I/O in, 493–494
 - finishing, 502–505
 - job attributes, 481
 - messages, sending, 496–501
 - operations, 481
 - PGM statement, 483
 - process steps, 485
 - program ID, 483
 - selection and iteration, 490–493
 - STRSEU screen for creating, 482
 - structure, 483–484
 - structure chart, 485
 - testing, 481–482
 - user interface, 481
 - uses, 481
 - variables, changing, 489–490
 - variables, declaring, 488–489
- CL Reference*, 316
- CL syntax, 35–43
 - command names, 36–38
 - defined, 35–36
 - illustrated, 36
 - keyword notation, 38–42, 480
 - positional notation, 42–43, 480
 - See also* Control Language
- Clear Commands (CMDCLR) menu
 - illustrated, 45
 - reaching, 47
- CLRMSGQ (Clear Message Queue) command, 515
- CLROUTQ (Clear Output Queue) command, 45–46
 - accessing, 45
 - prompt screen, 46
- Cobol programs, creating, 78
- Coded Character Set Identifier (CCSID), 170
- COLHDG keyword, 271, 287, 364
- Color attributes, 431
- Column functions
 - Count, 412
 - defined, 387
 - on groups of records, 389
 - returns, 389
 - Sum, 389
 - See also* Scalar functions
- Command line, 3
 - defined, 8
 - illustrated, 7
- Command menus, 43–46
 - groups, 46
 - hierarchical organization, 43
 - lower-level, 44

- major command groups, 44
See also CL commands
 - Command prompt screens, 10–11
 - defined, 10
 - displaying, 30
 - plus sign (+), 30
 - See also specific commands*
 - Commands. *See* CL commands
 - Communications support, 4
 - COMP keyword, 251
 - defined, 251
 - format, 251
 - using, 254
 - Compile listing, 262
 - Compiling
 - with DCLF statement, 487
 - DDS, 303
 - display files, 460
 - file descriptions, 164–167
 - logical files, 262, 399
 - multiple-format logical files, 282, 298
 - success, determining, 337
 - Composite keys, 245
 - Concatenation, 415–416, 501–502
 - *BCAT operation, 501–502
 - *CAT operation, 501
 - defined, 501
 - operations, 379, 501–502
 - *TCAT operation, 501–502
 - using, 501–502
 - Confirm Compile of Member screen
 - Delete existing object option, 341
 - illustrated, 307, 341
 - as warning, 307
 - Constants
 - enclosed in apostrophes, 444
 - manipulating, 444–446
 - Context-sensitive Help, 11–12
 - defined, 11, 26
 - limits of, 26
 - See also* Help
 - Continuation character (+), 491
 - Control breaks
 - illustrated, 280–281, 300
 - join logical query, 278
 - sort fields and, 204
 - Control field, 291
 - Control Language, 3, 35, 479–518
 - defined, 3, 35, 479
 - programming, 479–518
 - review, 479–480
 - source, entering, 482–483
 - See also* CL commands; CL programs; CL syntax
 - Control Language Programming for the AS/400*, 479
 - Copy Members screen, 176–177
 - accessing, 176
 - illustrated, 177
 - Copy Objects screen, 334
 - Copying files, 313–316
 - record selection, 314
 - record-format field mapping, 314–316
 - variations, 313
 - verification, 316–317
 - Count column function, 412
 - CPYF (Copy File) command, 297, 313–316, 333, 373
 - additional parameters, 338
 - Create file parameter, 297, 313, 338
 - defined, 313
 - extended Help, 31
 - features, 314
 - From file parameter, 313, 316, 339
 - invoking, 313
 - MBROPT parameter, 297
 - online Help, 316
 - prompt screen, 313
 - Record format field mapping parameter, 316, 338
 - record-format field mapping, 314–316
 - Replace or add records parameter, 316
 - required parameters, 313
 - To file parameter, 313, 316, 339
 - using, 320, 333
 - variations, 313
 - Create a DFU Program screen, 417
 - accessing, 355
 - completed, 357
 - Data file option, 355
 - first time using, 355
 - illustrated, 355
 - Library value, 355
 - Program option, 355
 - Create statement, 393
 - Create View statement, 393
 - CRTAUL (Create Authorization List) command, 328
 - CRTCLPGM (Create Cobol Program) command, 78
 - CRTCLPGM (Create CL Program) command, 505, 506
 - execution of, 506
 - invoking, 505
 - prompt screen, 505
 - CRTDEVPRT (Create Device Description (Printer)), 81, 99
 - CRTDUPOBJ (Create Duplicate Object) command, 313, 333
 - defined, 313
 - invoking, 313
 - CRTL (Create Logical File) command
 - additional parameters, 261
 - prompt screen, 260
 - running, 290
 - CRTL (Create Library) command, 78
 - extended Help, 13
 - object type, 67
 - parameters, 38–39
 - prompt screen, 9, 38
 - prompt screen in keyword format, 40
 - prompt screen showing additional function keys, 39
 - prompt screen with additional parameters, 10
 - prompt screen with parameter values entered, 41
 - successful execution message, 41
 - successful execution results, 42
 - CRTMSGF (Create Message File) command, 465
 - CRTOUTQ (Create Output Queue) command, 79, 82
 - defined, 82
 - prompt screen, 79
 - restricted use, 82
 - CRTPF (Create Physical File) command, 165
 - with additional parameters, 306
 - File parameter, 307
 - Library parameter, 166, 307
 - member screen example, 180, 181
 - parameter values, 166
 - prompt screen, 166, 306
 - Source file parameter, 166
 - Source member parameter, 166
 - submitting, 166
 - CRTPRTF (Create Printer File) command, 81, 97
 - CRTSRCPF (Create Source Physical File) command, 159, 303, 505, 507
 - CRTUSRPRF (Create User Profile) command, 67
 - Current** function, 212
 - Current library, 51
 - changing, 71–72, 74
 - default, 93
 - defined, 51
 - verifying, 93
 - See also* Libraries
- ## D
- DASD (Direct Access Storage Device), 2
 - Data authorities, 323
 - Data Description Specifications. *See* DDS
 - Data fields, 443
 - declaring, 447
 - defined, 447
 - identifying, 447
 - input/output, 447–451
 - length, 447
 - See also* Work screen
 - Data File Utility (DFU), 133, 171–176
 - accessing, 172, 354
 - advantages, 172
 - change mode, 175
 - defined, 172
 - disadvantages, 172
 - End Data Entry screen, 175–176
 - entry mode, 175
 - exiting, 175–176, 370–377
 - filled-in entry screen, 174
 - function keys and, 175
 - Help, 175
 - join logical files and, 356
 - limitations, 354
 - for logical files, 249, 262–264
 - as part of ADTS, 172
 - permanent, creating, 354
 - reasons for using, 343
 - requirements for using, 353
 - starting, 254
 - starting, on empty file, 174–175
 - temporary, 262, 298
 - temporary, program, 172–173
 - Update Data Using Temporary Program screen, 172–173
 - See also* DFU programs
 - Data File Utility (DFU) menu
 - accessing, 172, 354
 - Create a DFU program option, 354
 - Delete a DFU program option, 354
 - illustrated, 172, 354
 - Update data using temporary program option, 172
 - Data Manipulation Language (DML), 377
 - DATA menu, 8, 9
 - Data types, 143–144
 - floating-point, 144
 - L, 201

- list of, 143
- maximum lengths, 143
- numeric, 144
- packed decimal, 143–144
- zoned decimal, 143
- Data validation, 364, 377
- Database Design and Programming for DB2/400*, 380
- Database files
 - creating, 126–127
 - describing, at field level, 127–128
 - See also* Externally described files
- Databases
 - building, 393
 - updating, 395–398
- Date and time values, 4, 127
- Date fields, 143
 - data type L, 201
 - DFU, 174
 - duration calculations, 211
 - edit codes and, 370
 - editing, 200–201
 - See also* Time fields
- DATFMT keyword, 370
- DB2 for AS/400 Database Programming*, 285
- DCL (Declare) command, 489–490
 - defined, 488
 - requirements, 489
- DCL statement, 484
- DCLF (Declare File) command, 486–488
 - defined, 486
 - prompt screen, 487
 - sample program after entering, 488
 - using, 487
- DCLF statement, 484, 487
- DDS, 123, 127–128
 - compiling, 303
 - display-file, 465
 - file description, 165
 - join logical file, 268, 273, 299
 - multiple-format logical file, 281
 - record-format entry, 141–142
 - sample record description, 145
 - simple logical file, 248
- DDS Reference*, 285
- DDS source
 - changing, 305–317
 - copying, 285
 - physical files, 303–304
 - recompiling, 305
 - saving, 371, 459
- Decimal positions, 145–148
 - data type and, 145
 - defined, 145
 - hexadecimal fields and, 146
- Decimal scalar function, 387–389
 - defined, 387
 - results, 388–389
 - syntax, 387
 - use example, 388
- Default values, 11
- Define Audit Control screen, 360–361
 - accessing, 360
 - defaults, 361
 - illustrated, 360
- Define General Information/Indexed File screen, 400, 417–418
 - accessing, 358
 - Allow updates on roll option, 358
 - Audit report option, 358
 - Changes allowed option, 359
 - Display format option, 358
 - Edit numerics option, 358
 - Generate option, 359
 - illustrated, 359, 400, 418
 - Job title option, 358, 400
 - S/36 style option, 358
 - Suppress errors option, 358
- Define General Information/Nonindexed File screen
 - accessing, 357
 - Allow updates on roll option, 358
 - Audit report option, 358
 - completed, 360
 - Display format option, 358
 - Edit numerics option, 358
 - Generate (record numbers) option, 358
 - Heading option, 358
 - illustrated, 357, 360
 - Job title option, 358
 - Processing option, 358
 - S/36 style option, 358
 - Store in a field option, 358
 - Suppress errors option, 358
- Define Indicator Keyword screen, 474
- Define Menu Commands screen, 435–438, 469
 - accessing, 435
 - defined, 435
 - “Defined only options” display, 438
 - first command entered from prompting, 437
 - illustrated, 436
- Define Numeric Field Editing screen, 194–195, 200
 - accessing, 194
 - illustrated, 195
- Define Printer Output screen, 238
- Define Report Breaks screen
 - accessing, 204
 - illustrated, 204
 - for join, 279
- Define Result Fields screen, 211–213
 - accessing, 211
 - with calculation, 213
 - extended Help, 212
 - illustrated, 212
- Define the Query screen, 190–191, 229, 240
 - with > indicating used option, 193
 - accessing, 190
 - Define report breaks option, 202
 - Define result fields option, 211, 300
 - defined, 228
 - Enter key, 229
 - F13=Layout option, 193
 - illustrated, 191, 228
 - option selection, 228
 - returning to, 229
 - saving and, 229
 - Select and sequence fields option, 206
 - Select report summary functions option, 210
 - Select sort fields option, 202
 - Specify file selections option, 191, 240
 - Specify report column formatting option, 194, 208
 - with two options selected, 202
- Delete statement, 397–398
 - defined, 397
 - labeled duration in, 398
 - syntax, 397
 - use examples, 397, 398
 - See also* SQL statements
- Dependency relationships, 155
- Describe Date/Time Field Editing screen, 200–201
 - accessing, 200
 - illustrated, 201
- Describe Numeric Field Editing screen, 196
 - accessing, 196
 - changing values on, 196
 - illustrated, 196, 197, 232
- Design Menus screen, 428–429
 - accessing, 428
 - illustrated, 429
- Design Screens screen, 459, 471
 - accessing, 440
 - illustrated, 440
- DFT keyword, 344
- DFU End Data Entry screen, 175–176, 376
 - accessing, 175
 - defined, 176
 - illustrated, 175
- DFU programs
 - creating, 355–377
 - defining audit control for, 360–361
 - entering records with, 374–375
 - extended field definition specification, 363–370
 - field selection/sequencing, 361–363
 - general information, defining, 357–360
 - modifying, 371
 - record format selection, 361
 - running, 371
 - saving, 371
 - in Work with Objects Using PDM screen, 377
- DFU Update Data Using Temporary Program screen, 172–173
 - Data file parameter, 173
 - illustrated, 173
- DFU Update screen, 361
 - in change mode, 372
 - illustrated, 372, 373, 374, 375
 - in insert mode, 375
- Difference operation, 222
- Direct retrieval, 244
- Display Batch Accumulators screen, 376
- Display Commands (CMDDSP) menu, 87
- Display Data screen, 379
- Display Device Description screen, 91
 - illustrated, 91
 - for printer PRT01, 99
- Display devices, 5
- Display files, 439–467
 - attribute, 425
 - compiling, 460
 - constants, manipulating, 444–446
 - creating, 426, 440–442
 - DDS, 465
 - defined, 123, 425
 - description, 255, 310
 - fields, manipulating, 444–446
 - indicators, 451–456
 - input/output fields, 447–451
 - menu, 426
 - nonmenu, 426
 - records, 440

- results, checking, 460
 - saving, 459
 - testing, 459–464, 475
 - type, 425
 - See also* Menus
 - Display Installed Licensed Programs screen
 - description, 24
 - Help screen, 25
 - illustrated, 24
 - Installed Release, 24
 - Licensed Program number, 24
 - Display Job Status Attributes screen, 85
 - Display Messages screen, 459–460
 - accessing, 459
 - illustrated, 460
 - Display names, 22
 - Display Object Description–Full screen, 169–170
 - Display Physical File Member screen, 317
 - Display Program Messages screen, 499
 - Display Report Layout screen, 193–194, 198–199
 - accessing, 193, 198
 - illustrated, 193, 199
 - Display Report screen, 225–226
 - accessing, 224
 - matched records join, 226
 - matched records with primary file join, 225
 - outer join, 269
 - output, 233
 - RUNQRY output, 317
 - with split screen, 268, 269
 - unmatched records with primary file join, 225
 - Display Spooled File screen, 86, 88, 169, 255, 310
 - Display Test Input Data screen, 462
 - Display Total Accumulators screen, 376
 - DO-ENDO block structure, 490, 491, 493
 - Double Byte Character Set (DBCS), 142
 - DSPATR keyword, 452
 - DSPDBR (Display Database Relations) command, 308–309
 - defined, 308, 340
 - format, 309
 - output, 309
 - output after recompilation, 319
 - DSPDEV (Display Device Description) command, 91
 - DSPDTA (Display Data) command, 405
 - DSPFD (Display File Description) command, 309
 - logical file output, 336
 - output, 169, 170
 - prompt screen, 87
 - DSPFFD (Display File Field Description) command, 124, 510
 - field-level information, 126
 - file information, 125
 - output, 146, 170, 338
 - output for logical file, 258, 312
 - output illustration (page 1), 170
 - output illustration (page 2), 171
 - record-format information, 125
 - required parameters, 125, 170, 181
 - running, 181–182, 337
 - screen (page 1), 125
 - screen (page 2), 126
 - using, 125–126, 311
 - DSPLIBL (Display Library List) command, 60, 70–71, 93
 - defined, 70
 - output, 71, 73
 - required parameters, 70
 - DSPMSG (Display Messages) command, 167, 181, 460
 - accessing, 181
 - using, 337
 - for waiting message display, 500
 - DSPOBJD (Display Object Description) command, 168, 509
 - defined, 168
 - object types, 68
 - objects accessed by, 510
 - output file creation from, 510
 - Output parameter, 509
 - prompt screen, 510
 - DSPPFM (Display Physical File Member) command, 227, 316
 - data display, 227
 - record display order, 244
 - DSPSIZ keyword, 466
 - DSPSYSVAL (Display System Value) command, 49
 - Output parameter, 49, 50
 - parameters, 49
 - prompt screen, 50
 - System value parameter, 49
 - DSPUSRPRF (Display User Profile) command
 - Basic screen, 48–49
 - object type, 68
 - prompt screen, 48
 - Dupe key, 364
 - Duplicate keys, 245
 - Dynamic SQL, 378
 - DYNSLT keyword, 256
 - defined, 256
 - in join logical file, 266, 267
- ## E
- EBCDIC, 142
 - Edit Authorization List screen, 328
 - Edit codes, 365–366
 - comma separators, 370
 - date/time fields and, 370
 - L, 366
 - predefined, 366
 - using, 373
 - values, 366
 - variables, 365
 - Edit Object Authority screen, 322–323, 326–327
 - Add New Users screen from, 325, 327
 - with data-authority detail, 323
 - with object-authority detail, 322
 - User column, 328
 - with user-profile USROPT parameter, 324
 - Edit SDA Menus screen, 438–439
 - accessing, 438
 - illustrated, 439
 - values, 439
 - Edit symbols, 374
 - Edit words, 197–198
 - creating, 197–198, 416
 - defined, 197
 - specifying, 370
 - using, 373
 - Editing
 - comma-insertion, suppressing, 230
 - date fields, 200–201
 - library lists, 75–77
 - L-type fields and, 201
 - members, 164, 177
 - numeric, 374
 - system values, 4
 - time fields, 200–201
 - values, 4
 - EDTAUTL (Edit Authorization List) command, 328–329
 - EDTLIBL (Edit Library List) command, 75–77
 - Add New Users screen from, 325
 - (changed) screen, 76
 - defined, 75
 - prompt screen, 76
 - using, 75
 - EDTOBJAUT (Edit Object Authority) command, 322, 348
 - ELSE command, 491
 - End-of-file (EOF) condition, 514
 - ENDPGM statement, 484, 512
 - Enter SQL Statements screen, 409
 - Entry screens, 10–11, 20
 - command prompt, 10–11
 - defined, 9
 - plus sign (+), 30
 - sign-on, 5–6
 - Equijoin, 223, 383
 - Error messages, 291–293
 - compile listing windowed to show, 292
 - CPD7913, 293
 - CPD7956, 293
 - reading, 291
 - See also* Messages
 - Exception join, 222
 - Exit DFU Program Definition screen, 370–371, 404
 - accessing, 370
 - illustrated, 371
 - Modify program option, 371
 - Run program option, 371
 - Save DDS source option, 371
 - Save program option, 371
 - Type of run option, 371
 - Exit Interactive SQL screen, 414
 - Exit SDA Work screen, 458
 - Exit this Query screen, 215–216
 - accessing, 215
 - illustrated, 216, 235
 - Extended field definitions, 362, 363–370
 - Extended Help, 12–13, 25
 - CPYF command, 31
 - defined, 12
 - illustrated example, 13
 - organization of, 31–32
 - SEU, 139
 - See also* Help
 - External message queue, 496
 - Externally described files, 124–149, 159–185
 - advantages, 124–125
 - creating, 126–127
 - defined, 124, 159
 - field-level descriptions, 124
 - programming, 125
 - record formats, 124
 - utilities, 124–125

- F**
- Field attributes
 - changing, 457
 - setting, 432–433
 - Field Help, 11–12
 - Field lists, 378–380, 392
 - Field mapping, 314–316
 - CPYF record format, 315
 - data restoration by, 320
 - defined, 314
 - parameters, 314–315
 - Field-level entries, 142–148
 - data type, 143–144
 - decimal positions, 145–148
 - length, 142–143
 - name, 142
 - Fields
 - adding, 344
 - calculated, 300
 - character-type, 126, 209
 - data, 443, 447–451
 - date, 143, 144
 - display file, manipulating, 444–446
 - key, 244
 - length, 142–143
 - number of, 170
 - numeric, 147, 183
 - placement of, 188
 - primary-key, 217
 - result, 211–213
 - selecting, 188, 206–208, 361–363
 - sequence, 416
 - sequencing, 206–208, 361–363
 - sort, 202–203
 - time, 144
 - timestamp, 144
 - values, 155
 - FIFO keyword, 245
 - File description
 - compiling, 164–167
 - DDS, 165
 - defined, 165
 - displaying, 169–170
 - File lists, 380–383
 - elements, 380
 - join type examples, 380–381
 - File-level security, 322–332
 - authorization lists, 328–329
 - group profiles, 330–332
 - Files
 - copying, 313–316
 - creating, 303–305
 - declaring, 486–488
 - dependent, 309
 - existing, changing, 308
 - externally described, 124–149, 159–185
 - indexed, 358
 - joining, 216–218
 - joining more than two, 270–281
 - merging, 281, 282
 - nonindexed, 357, 358
 - primary, 218
 - program-described, 124
 - renaming, 308–313, 320, 335
 - secondary, 218
 - selecting, 191–193
 - types of, 123–124
- See also* Display files; Logical files; Physical files; Printer files
- Floating-point data type, 144**
- Format Report Break screen, 204–205**
- accessing, 204
 - Break text field, 205
 - illustrated, 205, 206
 - level 0, 205
 - level 1, 206
- Function keys, 8**
- active, 39
 - additional, prompt screen showing, 39
 - DFU and, 175
 - illustrated, 7
 - information on, 54
 - list, 39
 - WRKOUTQ command, 104
- G**
- GO command, 46–49**
- format, 54
 - GO QUERY, 188
 - information, 54
 - required parameter, 46
 - using, 46–47, 54
- GOTO command, 482, 484**
- Group indication, 278–279**
- defined, 279
 - illustrated, 280
 - using, 278
- Group profiles, 330–332**
- assigning users to, 330
 - creating, 330
 - creation authority, 349
 - defined, 5, 330
 - granted *CHANGE authority, 330
 - membership, 330
 - performance and, 332
 - variable authority levels and, 331
 - See also* Security; User profiles
- Grouping records, 389–390, 391**
- GRTOBJAUT (Grant Object Authority) command, 324**
- H**
- Having clause, 390**
- defined, 390
 - with labeled duration, 392
 - See also* SQL; SQL statements
- Help, 11–19**
- context-sensitive, 11–12, 26
 - DFU, 175
 - extended, 12–13, 25, 31–32
 - field, 11–12
 - InfoSeeker, 13–17
 - key, 11
 - online, 316
 - request, canceling, 12
 - search index, 13, 18–19
 - SEU, 138–139
- Help screens, 11, 13**
- Create Library (CRTLIB), 13
 - defined, 11
 - Display Installed Licensed Programs, 25
- High-level languages (HLLs), 125**
- High-level machine interface, 66**
- I**
- IF command, 482, 490–493**
- linear nested, 491, 492
 - negated, 492
 - nonlinear nested, 491, 492
 - relational operators with, 490
 - simple, 492
 - syntax, 490
 - variation examples, 492–493
 - variations, 492
- Implementing AS/400 Security, 332**
- Index search, 275**
- Indexed files**
- Define General Information screen for, 359
 - defined, 358
 - options, 358, 359
 - See also* Nonindexed files
- Indicators, 451–456**
- defined, 451
 - identification, 451
 - no specified, 451
 - option, 451
 - response, 451
 - specifying, 451
 - uses, 452
 - See also* Display files; SDA
- Information Assistant, 17–18**
- defined, 17
 - Options, 17–18
- Information screens, 11–19**
- defined, 11
 - Help, 11–19
- InfoSeeker, 13–17**
- access determination, 14
 - bookshelf display, 14
 - bookshelf list, 14
 - bookshelves, 13, 14
 - defined, 13
 - Search prompt screen, 15
 - search results example, 16
 - tour, 14–17
 - using, 14–16
 - See also* Help
- Inner joins, 221**
- defined, 221
 - as equijoin, 223
 - See also* Join operations
- Input/output fields**
- adding, 447–451
 - declaring, 447
 - defined, 447
 - defining, 447
 - usage, 447
 - use example, 448
 - See also* Work screen
- Insert statement, 395–396, 409–410**
- defined, 395
 - prompt screen, 410
 - syntax, 395, 409
 - use examples, 395, 396
 - See also* SQL statements
- Interactive Data Definition Utility (IDDU), 127**
- Interactive jobs**
- defined, 2
 - starting, 6

- user requests and, 2
- See also* Jobs
- Intermediate assistance level
 - Change Spooled File Attributes (CHGSPLFA)
 - screen, 116
 - selecting, 115, 119
 - Work with Printers screen, 105, 118
 - working with, 120
 - See also* Assistance levels
- J**
 - JDFTVAL keyword, 266
 - join logical file with, 268, 277
 - outer join with, 277
 - JFILE keyword, 265, 318
 - JFLD keyword, 265
 - field names, 265
 - specifying, 265
 - Job Definition Attributes screen, 89
 - Job descriptions, 6, 89
 - displaying, 89–90
 - name, 89
 - QDFTJOB, 90
 - Job logs
 - creation of, 295
 - displaying, 290
 - Job queue, 2
 - Jobs
 - active, 516
 - attributes, 83
 - batch, 2
 - defined, 1
 - ending abnormally, 290
 - external message queue, 496
 - interactive, 2
 - number of, 2
 - types of, 2
 - JOIN keyword, 265
 - Join logical files, 247, 264–281
 - compiling, 276
 - control breaks, 278
 - creating, 264–281, 299
 - DDS for, 268, 273, 299
 - defined, 264
 - DFU and, 356
 - with JDFTVAL keyword, 268, 277
 - key fields, 266
 - left outer, 278
 - more than two, 270–281
 - Query/400 and, 264, 267–270
 - record format, 266
 - records, 269
 - Select/Omit entries for, 266
 - Specify File Selection screen for, 267
 - See also* Logical files
 - Join operations
 - defined, 216
 - difference, 222
 - exception join, 222
 - inner join, 221
 - natural join, 221
 - outer join, 221
 - types of, 220–222
 - Join queries, 218–222
 - creating, 218–222
 - output, 220
 - primary file, 218, 219–222, 241
 - secondary files, 218–220
 - type of, 220–222
 - Join relationship, 222–226
 - equijoin, 223
 - specifying, 222–226, 240
 - JREF keyword, 273, 274
- K**
 - Key fields
 - defined, 244
 - join logical files, 266
 - multiple-format logical file, 281
 - parent, 321
 - record retrieval via, 244
 - specifying, 245–247
 - Keyed-sequence access paths, 244–247, 275
 - defined, 244
 - key fields, 244, 245–247
 - multiple-format logical file, 285
 - with UNIQUE keys, 261, 295
 - See also* Access paths
 - Keys
 - composite, 245
 - duplicate, 245
 - primary, 217, 245, 271
 - Keyword notation, 38–42
 - defined, 38
 - illustrated, 40, 480
 - See also* CL syntax
 - Keywords
 - ALL, 254–255
 - COLHDG, 271, 287, 364
 - COMP, 251, 254
 - DATFMT, 370
 - DFT, 344
 - DSPATR, 452
 - DSPSIZ, 466
 - DYNSLT, 256, 266, 267
 - FIFO, 245
 - JDFTVAL, 266, 268
 - JFILE, 265, 318
 - JFLD, 265
 - JOIN, 265
 - JREF, 273
 - misspelled, 288
 - PFILE, 247, 250, 265, 286, 288, 318
 - RANGE, 252, 254
 - TEXT, 271
 - THEN, 490
 - TIMFMT, 370
 - UNIQUE, 245–246, 271, 287, 288
 - validity-checking, 365
 - VALUES, 251, 254
- L**
 - Lab 1, 21–33
 - answer sheet, 33
 - defined, 21
 - introduction, 21
 - Part 1, 21–23
 - Part 2, 23–24
 - Part 3, 25–26
 - Part 4, 26–29
 - Part 5, 30–32
 - Lab 2, 53–63
 - answer sheet, 63
 - defined, 53
 - introduction, 53
 - Part 1, 53–54
 - Part 2, 54–55
 - Part 3, 56–58
 - Part 4, 58–61
 - Part 5, 61–62
 - Lab 3, 83–95
 - answer sheet, 95
 - defined, 83
 - introduction, 83
 - Part 1, 83–86
 - Part 2, 86–88
 - Part 3, 88–92
 - Part 4, 92–93
 - Lab 4, 112–121
 - answer sheet, 121
 - defined, 112
 - introduction, 112
 - Part 1, 112–114
 - Part 2, 114–117
 - Part 3, 117–119
 - Part 4, 119–120
 - Lab 5, 150–157
 - answer sheet, 157
 - defined, 150
 - introduction, 150
 - Part 1, 150–151
 - Part 2, 152–155
 - Lab 6, 176–185
 - answer sheet, 185
 - defined, 176
 - introduction, 176
 - Part 1, 176–179
 - Part 2, 179–182
 - Part 3, 182–184
 - Lab 7, 227–242
 - additional exercise, 239–241
 - answer sheet, 242
 - defined, 227
 - introduction, 227
 - Part 1, 227–235
 - Part 2, 235–239
 - Lab 8, 285–302
 - additional exercise, 297–301
 - answer sheet, 302
 - defined, 285
 - introduction, 285
 - Part 1, 285–289
 - Part 2, 289–296
 - Part 3, 296
 - Lab 9, 333–352
 - additional exercise, 346–349, 352
 - answer sheets, 351–352
 - defined, 333
 - introduction, 333
 - Part 1, 333–337
 - Part 2, 337–342
 - Part 3, 342–343
 - Part 4, 344–345
 - Lab 10, 399–423
 - additional exercise, 417–420
 - answer sheet, 422–423
 - defined, 399
 - introduction, 399

- Part 1, 399
 - Part 2, 400–405
 - Part 3, 406–414
 - Part 4, 414–417
 - Lab 11, 468–477
 - answer sheet, 477
 - defined, 468
 - introduction, 468
 - Part 1, 468–470
 - Part 2, 470–471
 - Part 3, 471–476
 - Lab 12, 506–518
 - additional exercise, 509–516
 - answer sheet, 518
 - defined, 506
 - introduction, 506–507
 - Part 1, 507–509
 - Labeled duration, 392–393
 - defined, 392
 - in Delete statement, 398
 - Having clause with, 392
 - use of, 393
 - Layered Machine Architecture, 66
 - Left outer joins
 - defined, 221
 - as equijoin, 223
 - JDFIVAL keyword and, 278
 - for join logical files, 268
 - primary file and, 265
 - See also* Join operations
 - Level checks, 342, 343
 - defined, 318
 - overriding, 318
 - Libraries
 - adding, 60, 73–74
 - creating, 78
 - current, 51, 71–72, 74
 - defined, 6, 68
 - IBM-supplied, 51
 - menu path for creating, 7
 - name, 74
 - object organization, 68
 - objects within, 52
 - path definition, 49
 - position, changing, 76
 - product, 51
 - QHLPSYS, 51
 - QSYS2, 51
 - QSYS, 51
 - QUSRSYS, 51
 - relative order, 72
 - removing, 74
 - search sample, 69
 - secured by authorization list, 329
 - system, 49, 51
 - test, 60
 - user, 75
 - Library List Commands (CMDLIBL) menu
 - Display Library List option, 59
 - displaying, 58–59
 - illustrated, 59
 - Library lists, 49–52
 - changed, 72
 - changing, 74–75
 - commands, 70–77
 - creation of, 49
 - defined, 4, 49
 - displaying, 58–59, 70–71
 - editing, 75–77
 - entries, adding, 73–74
 - entries, removing, 74
 - parts of, 49
 - relationships, 52
 - system, 49–51
 - types, 60
 - user, 51
 - values, 4, 49
 - LIBRARY menu, 9
 - Library value, 30, 30–31
 - Licensed internal code, 65
 - Licensed program products
 - application development tools, 4
 - categories, 4–5
 - communications support, 4
 - defined, 4
 - installed, viewing, 5
 - OfficeVision, 4
 - programming languages, 5
 - LICPGM (Work with Licensed Programs) menu, 5
 - Like operation, 385
 - List screens, 19–20
 - defined, 19
 - example, 27
 - options, 19
 - using, 27–28
 - List-management authority, 329
 - Logical files, 243–302
 - alternate access path, 247–250
 - based-on, 318–320
 - compiling, 262, 399
 - creating, 259–264
 - defined, 124, 247
 - DFU, 249, 262–264
 - display file description for, 255
 - DSPFD command output, 336
 - DSPFFD command output, 258, 312
 - functions, 247
 - with intentional error, 289
 - join, 247, 264–281
 - multiple-format, 247, 281–285
 - physical file record access, 248
 - with physical file record-format name, 251
 - projection, 256–259
 - record-format name, 248
 - saving, 399
 - Select/Omit entries, 250
 - selection, 250–251
 - simple, 247
 - SQL on, 377
 - types of, 247
 - views, 247
 - See also* Files; Physical files
 - Logical machine, 66
- ## M
- Main menu
 - actions, 8
 - Help, 53
 - illustrated, 7
 - showing failed command attempt, 327
 - User tasks, 112
 - See also* Menu screen
 - MAJOR menu, 44, 45
 - Many-to-many relationship, 272
- ## Members
- changed, 179
 - changing, 135–136, 347
 - copying, 176–177
 - creating, 135–136, 165
 - creating, with SEU, 136–148, 160
 - defined, 135
 - editing, 164, 177
 - list of, 135
 - source, 304–305
 - viewing, 464–467
- ## Menu interface, 3
- ## Menu options, 8
- ## Menu screens, 7–9, 20
- command line, 8
 - function keys, 8
 - illustrated, 7
 - menu options, 8
 - screen header, 7
 - sections, 7
- ## Menus, 427–439
- creating, 426
 - designing, 428–431
 - entities, 427–428
 - nonmenu display files vs., 426
 - template, 427
 - See also* Display files
- ## Merge operation, 281, 282
- ## Message and logging values, 4
- ## Messages
- break, 498
 - defined, 496
 - delivered, 500
 - diagnostic, 513
 - displaying, 181
 - error, 291–293
 - handling, 496
 - informational, 496
 - inquiry, 496
 - sending, 496–501
 - waiting, displaying, 500
- ## Microcode, 66
- ## MONMSG (Monitor Message) command, 514
- ## Multiple-format logical files, 247, 281–285
- adding data with, 297
 - compiling, 282, 298
 - creating, 298
 - DDS, 281
 - defined, 281
 - key fields, 281
 - keyed-sequence access path, 285
 - merging, 281
 - See also* Logical files
- ## Multitasking, 1
- ## N
- Natural join, 221
 - New Line key, 54
 - Nonindexed files
 - Define General Information screen for, 357
 - defined, 357
 - options, 358
 - specifying, 357
 - See also* Indexed files
 - Nonmenu display files. *See* Display files

- Numeric editing, 374
- Numeric fields, 147
- arithmetic operators and, 211
 - declaring, 447
 - incomplete, 183
 - result, 211
 - setting, 364
- O**
- Object authorities
- added/changed, 326
 - *CHANGE, 329
 - detail in Edit Object Authority screen, 322
 - types, 323
 - usage, 323
- Object description, 168–171
- Object types
- defined, 3, 67
 - list of, 68
 - naming, 67
 - number of, 67
- Object-based architecture, 65–67
- Objects, 65–95
- creating, 78
 - defined, 3, 65
 - encapsulation, 65
 - hierarchy, 156
 - in libraries, 52
 - list of, 135
 - locating, 77–78
 - organizing, 68
 - requesting, 68–69
 - simple name, 68
 - storing, 78–80
 - types of, 65, 67–68
- OfficeVision, 4
- One-to-many relationship, 272
- defined, 217
 - two parent files related in, 272
 - See also* Relationships
- Option indicators, 451
- OR operation, 253
- Order By clause, 386, 390
- limiting output, 390
 - output, 386
 - use warning, 387
 - using, 410–411
 - See also* SQL; SQL statements
- OS/400, 3
- OS/400 Work Management, 15
- Outer join, 221
- DDS, using JDFTVAL keyword, 277
 - Display Report screen, 269
 - See also* Join operations
- Output queues
- creation of, 81
 - default, 86, 91, 115
 - defined, 79, 81
 - spooled file, changing, 100
 - status, checking, 118–119
 - status display, 119
 - user-name, 115, 117
 - user-profile, 115
 - working with, 101–106, 176
 - WRKOUTQ, 101
- OVRDBF (Override with Database File) command, 318
- P**
- Packed decimal data type, 143–144
- Parameters, 30
- defaults, 31
 - defined, 3
 - keywords, 38
 - keyword-value set, 38
 - in positional notation, 42
 - required, 11, 31
 - specification order, 42
 - See also* CL commands
- Parent-child relationship, 217
- Passwords
- candidate, 61
 - changing, 61–62
 - current, 62
 - forgetting, 61
 - requirements, 61
- PDM, 123, 128–136, 161–164
- accessing SEU with, 161–162
 - defined, 128
 - functions of, 128
 - introduction to, 128–136
 - starting, 128
- PDM menu, 128
- accessing, 128
 - illustrated, 129
 - Work with libraries option, 128–129
 - Work with members option, 135
 - Work with objects option, 132
- PFILE keyword, 247, 250, 265, 288
- using, 286
 - value, 318
- PGM statement, 483, 486
- Physical files
- access paths and, 243–247
 - changed, recompiling, 318
 - creating, 165
 - defined, 123–124
 - describing, 141
 - format, 138
 - modifying, with CHGPF, 320–322
 - record types, 141
 - renaming, 308–311, 335
 - source, 134, 159, 303–304
 - SQL on, 377
 - volatility, 261
 - See also* Files; Logical files
- Physical machine, 66
- Positional notation, 42–43
- defined, 42
 - error messages, 42–43
 - illustrated, 480
 - parameter order, 42
 - using, 43
 - See also* CL syntax
- Primary files
- arrival sequence, 269
 - defined, 218
 - in left outer joins, 265
 - loop-within-a-loop processing, 276
 - matched records with, 221–222, 241
 - record selection, 219–220
- unmatched records with, 222
 - See also* Join queries
- Primary group, 331
- Primary keys
- constraint, 271
 - defined, 217, 245
- Printed output, 83
- Printer devices, 79
- description, 91–92
 - output queue, 92
- Printer files, 88, 97–98
- changing, 97–98
 - creating, 81, 97
 - defined, 81, 123
 - QSYSPRT, 88, 98
 - with specific values, 88
- Printer spooling, 81–82
- Printer writers, 98–100
- attached to output queue, 99, 100
 - changing, 99–100
 - defined, 98
 - generation, 98
- Printers
- ended, 119
 - hold status, 119
 - MSGW status, 104
 - selecting, 114
 - status, checking, 119
- Printing
- audit reports, 359
 - copied records, 314
- Private authorities, 328
- explicit, 328
 - long list, avoiding, 332
 - performance and, 332
 - See also* Authorities
- Product library, 51
- Profile Commands (CMDPRF) menu, 47
- Program-described files, 124
- Programming Development Manager. *See* PDM
- Programming languages, 5
- Projection, 256–259
- defined, 256
 - for field security, 256
 - illustrated use of, 259
- Public authority, 328, 329, 331
- Q**
- QBATCH subsystem, 2, 166, 293, 516
- QDDSSRC file, 426
- QHLPYSYS library, 51
- QINTER subsystem, 2
- QSYS2 library, 51
- QSYS library, 51
- QSYSLIBL system value, 50–51
- QSYSPRT file, 88, 98
- Qualified names, 69–70
- defined, 69
 - elements, 69
 - explicit, 70

- use guidelines, 70
- using, 70
- Queries
 - changing, 190
 - copying, 190
 - creating, 190
 - default, 201
 - defining, 190–201
 - exiting, 215–216, 234
 - field selection for, 206–207
 - join, 218–222
 - layout preview, 193–194
 - modifying, 238
 - output, 214–215
 - Query Management (QM), 378
 - recompiling, 318, 320
 - refining, 201–216
 - running, 207, 234, 236
 - sample, 415
 - saving, 234
 - working with, 189–190
- Query Management (QM) queries, 378
- Query programs, executing, 188
- Query Utilities (QUERY) menu
 - accessing, 188
 - illustrated, 189
- Query/400, 187–242
 - characteristics of, 187
 - defined, 187
 - feature support, 187–188
 - join logical files and, 264, 267–270
 - join operation, 216–218
 - join queries, 218–222
 - join relationship specification, 222–226
 - query program execution, 188
 - report layout, 188
 - report preview, 188
 - selection/arrangement of records, 187
 - selection/placement of fields, 188
 - specification of report breaks, 188
 - starting, 188–189
 - uses, 187
- QUSRSYS library, 51
- R**
- RANGE keyword, 252
 - defined, 252
 - format, 252
 - using, 254
- RCVF (Receive File) command, 494–495
 - defined, 494–495
 - Display device parameter, 495
 - functions, 494
 - prompt screen, 495
 - Record format parameter, 495
 - using, 495
- RCVMSG (Receive Message) command, 515
- Record formats, 243
 - defined, 125
 - defining characteristics, 126
 - field mapping, 314–316
 - importance of, 126
 - information display, 170–171
 - join logical file, 266
 - keying, 141–142
 - name, 125
 - unchanged after recompiling, 319
- Records
 - active, 443
 - adding, 172, 419, 443
 - arranging, 187
 - changing, 172, 443
 - deleting, 419
 - display file, 440
 - field-level descriptions, 170
 - field-level entries, 142–148
 - grouping, 389–390, 391
 - join logical file, 269
 - joined query, 220
 - length, 170
 - matched, 221–222
 - numeric fields, 145
 - omitting, 251, 252
 - record number, 175
 - relative numbers, 244
 - selecting, 187, 237, 251, 252
 - types of, 141
 - unmatched, 222, 224
 - See also* Fields
- Referential integrity, 282
- Relational operators
 - with IF command, 490
 - Where clause, 383
- Relationships
 - based-on, 335
 - many-to-many, 272
 - one-to-many, 217, 272
 - parent-child, 217
- Relative record numbers, 244
 - assignment, 244
 - specifying range of, 314
- Rename Libraries screen, 132
- Rename Objects screen, 310
 - accessing, 310, 335
 - illustrated, 310, 336
- Renaming files, 308–313, 320, 335
- Report breaks
 - defining, 204–205, 279, 416
 - formatting, 205–206
 - for join, 279
 - levels, 204
- Report columns
 - displaying, 195
 - field lengths, 416
 - formatting, 194–195
 - headings, 230
 - saving formatting of, 210
 - spacing, 210
- Report generators, 187
- Report Layout Utility (RLU), 127
- Reports
 - audit, 359
 - column headings, 209, 230
 - finishing, 213–215
 - format checking, 211
 - format preview, 208
 - group indication and, 278–279
 - layout, 188
 - level-break, creating, 414–416
 - ordering fields for, 207
 - output illustration, 214–215
 - previewing, 188
 - result fields, 211–213
 - running, 210
 - summary functions, 210–211
- Response indicators, 451
- Response time
 - defined, 261
 - reducing negative impact of, 262
- Restriction operation, 250
- Result fields
 - creation method, 211
 - defining, 211–213, 415
 - numeric, 211
 - shortening size of, 212
- RETURN command, 505
- RMVLIBLE (Remove Library List Entry) command, 74
- RNMOBJ (Rename Object) command, 130–131
 - accessing, 130
 - prompt screen, 131
- RPG/400 Reference*, 365
- RUNQRY (Run Query) command, 188
 - default query, 399
 - defined, 236
 - output, 316, 317
 - prompt screen, 236
 - Query file parameter, 399
 - Record selection parameter, 237
 - Report output type parameter, 237
 - running, 345
- S**
- Save DDS—Create Display File screen, 459, 475
- SBMJOB (Submit Job) command, 516
- Scalar functions, 379–380
 - Decimal, 387–389
 - defined, 379
 - invoking, 389
 - returns, 389
 - See also* Column functions
- Screen Design Aid. *See* SDA
- Screen header, 7
- SDA, 425–477
 - DDS source code generation, 426
 - default color, 451
 - defined, 127, 425
 - fields, 456–457
 - function keys, 443
 - function of, 425–426
 - getting started with, 426–427
 - starting, 426
- SDA initial screen, 426–427
 - accessing, 426
 - Design menus option, 428
 - Design screens option, 440, 471
 - illustrated, 427
 - options, 427
 - Test display files option, 459
- SDA Menu template screen
 - accessing, 430
 - attribute bytes, 430–431
 - attribute commands, 430–431
 - final, 435
 - illustrated, 430, 433, 434
 - lines 1 through 20, 430
- Search index, 18–19
 - defined, 13
 - related topics list, 19

- screen, 18
 - See also* Help
- *SECADM special authority, 349
- Secondary files
 - defined, 218
 - record selection, 219–220
 - showing fields for, 219
 - See also* Join queries
- Security
 - field, 256
 - file-level, 322–332
 - resources, 332
 - user profile, 61
 - values, 4
 - See also* Authorities; Authorization lists; Group profiles
- Security – Basic*, 332
- Select and Sequence Fields screen, 206–207, 361–362, 401
 - accessing, 206, 361
 - with all fields selected in default sequence, 362
 - illustrated, 206, 362
 - ordering fields, 207
- Select Colors screen, 450, 451, 454, 456
- Select Display Attributes screen, 453, 455
 - with high intensity, 453
 - for “Not a Valid Choice” message, 456
- Select Field Keywords screen, 450, 453–454
 - accessing, 453
 - for error message constant, 455
 - illustrated, 454
- Select File screen, 229, 355–356
 - accessing, 355
 - illustrated, 356
- Select Output Type and Output Form screen, 234, 238
- Select Records screen, 237
- Select Report Summary Functions screen, 210–211, 214
 - accessing, 210
 - illustrated, 211, 214
 - summary function list, 211
 - Type options, 210
- Select Sort Fields screen
 - accessing, 202
 - confirm request, 203
 - illustrated, 203
- Select statement, 382, 392
 - accessing, 406
 - executable message, 408
 - list fields, 392
 - prompt screen, 406, 407
 - syntax, 392
 - See also* SQL statements
- Select/Omit entries, 250, 251
 - coding, 252
 - description information, 254
 - for join logical files, 266
 - key specification and, 258
 - logic, 251
 - logical-file display-file description with, 255
 - multiple, 252
- Sequence fields, 416
- Sequential retrieval, 244
- Set Field Attributes screen, 433
- Set Test Output Data screen, 461, 462–463, 475
 - accessing, 462
 - illustrated, 463
- SEU, 123, 136–149, 159–164, 426
 - accessing, with PDM, 161–162
 - creating members with, 136–148
 - defined, 127–128, 159
 - entry fields, 141
 - exiting, 148–149
 - parameters, 136
 - starting, 136, 159–160
- SEU Edit Work screen, 137–138, 153, 306
 - accessing, 137, 161
 - after inserting fields, 148
 - with changed member, 179
 - cleared, 138
 - command line, 138
 - completed screen, 155
 - illustrated, 137, 161
 - inserted blank lines, 153
 - Name field, 154
 - Name Type field, 286
 - with PF prompt, 153
 - with prompted line, 286
- SEU Exit screen, 148–149
 - accessing, 148
 - illustrated, 149
 - options, 149
- SEU Help, 138–139
 - accessing, 138
 - Command-Line Help screen, 139
 - Edit Help screen, 139
 - extended, 139
- SEU line commands, 140–141, 163
 - Copy, 163, 177, 178
 - defined, 140, 163
 - Delete, 163, 177, 178
 - editing, 164
 - Insert, 163, 177, 482
 - Move, 163, 177
 - target designator, 163, 177
- SIGNOFF command, 438, 469
- Sign-on screen
 - defined, 5
 - illustrated, 6
 - password, 23
 - “Password not correct for user profile” message, 23
 - procedure, 22
 - user name, 6
 - See also* Entry screens
- Simple logical files, 247–251
 - alternate access path, 247–250
 - DDS for, 248
 - defined, 247
 - describing, 247–251
 - selection, 250–251
 - See also* Logical files
- Simple object name, 68
- Single-level storage, 67
- SNDBRMSG (Send Break Message) command, 496, 497, 499
- SNDF (Send File) command, 493, 494
 - defined, 494
 - functions, 494
- SNDSMSG (Send Message) command, 496, 515
- SNDPGMMMSG (Send Program Message) command, 496, 497, 499, 512
 - defined, 496
 - type incompatibility, 513
- SNDRCVF (Send/Receive File) command, 494, 495
 - defined, 495
 - uses, 495
- Sort fields
 - control breaks and, 204
 - primary, 206
 - priority, 202, 204
 - secondary, 206
 - selecting, 202–203, 241
- Source code, entering, 128
- Source Entry Utility. *See* SEU
- Source physical files, 134
 - creating, 165
 - default, 135
 - defined, 159
 - See also* Physical files
- Special authorities
 - *ALLOBJ, 326, 330
 - *SECADM, 349
 - spool-control, 104
 - user profile, 5
 - See also* Authorities
- Specify Edit Word screen, 197–198
 - accessing, 197
 - apostrophes (’), 198
 - with edit characters entered, 199
 - for edit field, 200
 - illustrated, 198
- Specify Extended Field Definition screen, 363–364
 - accessing, 363
 - Accumulate option, 364
 - Auto-duplicate option, 364
 - Auto-increment option, 364
 - completing, 402
 - Edit code option, 365
 - Edit word option, 402, 403
 - example illustration, 368
 - Extended field heading option, 364
 - illustrated, 364, 403
 - Non-display option, 365
 - for numeric and character fields, 368
 - page 2, 365
 - Validity checks option, 364
- Specify File Selections screen, 218–219, 229, 276
 - accessing, 191
 - after prompting on file name, 192
 - completed, 219
 - fields for secondary file, 219
 - illustrated, 191, 219
 - for join logical files, 267
- Specify How to Join Files screen, 222–223
 - accessing, 222
 - illustrated, 223
 - parts, 223
- Specify Members to Work With screen, 162
- Specify Menu Functions screen, 429–430
 - accessing, 429
 - illustrated, 429
 - Work with menu help option, 430
 - Work with menu image and commands option, 430

- Specify Report Column Formatting screen, 194–195, 198
 - accessing, 208
 - with changes, 209
 - defined, 194
 - Edit column asterisk, 232
 - illustrated, 195, 208, 230
- Specify SELECT Statement screen, 406–407
 - accessing, 406
 - F21 from, 408
 - illustrated, 406, 407
- Specify Type of Join screen, 219–222
 - 1=Matched records option, 221
 - 2=Matched records with primary file option, 221–222
 - 3=Unmatched records with primary file, 222, 224
 - accessing, 219
 - illustrated, 220
- Specify Validity Checks screen, 366–367
 - accessing, 366
 - example illustration, 369
 - Extended name check option, 369
 - illustrated, 367
 - List of values option, 367
 - Mandatory entry option, 367
 - Mandatory fill option, 367
 - Relational operator option, 367
 - for valid name entry, 369–370
- Spool-control special authority, 104
- Spooled files, 97–121
 - changing, 101–110
 - cleaning up, 119
 - defined, 81, 98
 - finding, 117
 - handling, 97–121
 - list order, 107
 - output queue, changing, 100
 - redirecting, 114
 - working with, 106–107
- Spooler
 - concept illustration, 80, 98
 - defined, 80, 98
 - queues, 81
- Spooling, 80–82
 - job, 81
 - print, 81–82
- SQL, 5, 127, 377–398
 - capabilities, 386–395
 - comma, 378
 - command interpreter, 408
 - command-line, 378, 406
 - defined, 127, 377
 - DML, 377
 - dynamic, 378
 - exit screen, 414
 - field names, 378
 - file maintenance with, 395–398
 - Having clause, 390, 392
 - introduction to, 377–395
 - Order By clause, 386, 387, 390
 - QM queries, 378
 - running, 303
 - session, saving, 414
 - tables, 377
 - terminology, 378
 - uses, 377
 - views, 393
 - Where clause, 383–386
 - wildcard characters, 385
- SQL keywords, 378
 - Distinct, 386
 - Join, 382
- SQL statements, 378
 - Create, 393
 - Create View, 393
 - Delete, 397–398
 - dynamic, 378
 - field-list, 378–380
 - file-list, 380–383
 - format, 378
 - Insert, 395–396, 409–410
 - Select, 382, 392, 406–409
 - Update, 396–397, 411–412
 - Where clause, 383–386
- Storage system values, 4
- STRDFU (Start DFU) command, 172, 354
- STRPDM (Start PDM) command, 128–129
- STRQRY (Start Query) command, 188
- STRSDA (Start SDA) command, 426
- STRSEU (Start SEU) command, 136, 159–160
 - completed screen, 137
 - Option parameter, 160
 - screen, 136, 152, 160
 - screen for creating CL program, 482
 - Source file parameter, 160
 - Source type parameter, 136, 138
- STRSQL (Start SQL) command, 406
- Structured Query Language. *See* SQL
- Subsystems
 - attributes, 2
 - batch, 2, 166
 - defined, 1
 - descriptions, 1
 - name, 2
 - number of jobs on, 2
 - QBATCH, 2, 166, 293, 516
- Sum column function, 389
- System control values, 4
- System library list, 49–51
 - libraries, 49, 51
 - See also* Library lists
- System Licensed Internal Code (SLIC), 67
- System Request screen, 346–347
 - accessing, 346
 - illustrated, 347
- System values, 3–4
 - allocation, 4
 - categories, 4
 - date and time, 4
 - defined, 3
 - editing, 4
 - library list, 4
 - message and logging, 4
 - security, 4
 - storage system, 4
 - system control, 4
- T**
- Tab key, 54
- *TCAT operation, 501–502
- Test Display File screen, 460–461
 - accessing, 460
 - illustrated, 460
- Testing display files, 459–464
- TEXT keyword, 271
- THEN keyword, 490
- Throughput, 262
- Time fields, 144
 - DFU, 174
 - duration calculations, 211
 - edit codes and, 370
 - editing, 200–201
 - See also* Date fields
- Timestamp fields, 144
- TIMFMT keyword, 370
- U**
- UNIQUE keyword, 245–246, 271, 287, 288
 - coding, 245
 - defined, 245, 287
 - file-level specification, 246
 - used in keyed-sequence access path files, 261
 - using, 246
- Update statement, 396–397
 - defined, 396
 - modified, 397
 - power of, 396
 - running, 411–412
 - Set expression, 397
 - use examples, 396, 397
 - use illustration, 413
 - using, 412
 - Where clause, 397
 - See also* SQL statements
- UPDDTA (Update Data) command, 349, 420
- *USE authority, 328, 329, 331
- User class, 5
- User interface, 6–7
- User libraries, 51, 75
- User library list, 51
- USER menu, 112
- User name, 6
- User profiles, 5
 - changing, 56
 - current value, 49
 - defined, 5
 - defining information, 5
 - name, 48
 - output queue, 115
 - security, 61
- V**
- Validity checks, 365, 366–367
 - for non-numeric fields, 369
 - specifying, 369
 - uses, 369–370
- VALUES keyword, 251
 - defined, 251
 - format, 251
 - using, 254
- Variables, 488–490
 - changing values of, 489–490
 - declaring, 488–489
 - testing, 490

types and attributes, 488
uses, 489
See also CL programs; Control Language

Verb Commands menu, 44

Views (SQL), 247, 393–394
creating, 393
defined, 393
joining, 393–394
purpose, 394

Volatility, 261

W

Where clause, 383–386
defined, 383
examples, 383–386
general form, 383
operands, 383
relational operators, 383
Update statement, 397

Work management, 6

Work screen, 442–443
active records, 443
completed, 457
with date, time, constants entered, 446
defined, 443
illustrated, 442
illustrated example, 469
with input/output field, 448
with selections keyed but not entered, 446
using, 442

Work with Active Jobs screen, 516

Work with All Spooled Files screen, 117

Work with Display Records screen, 440–441, 457
accessing, 440
Design image option, 441
format, 440
illustrated, 441, 458
Select keywords option, 441

Work with Fields screen, 401, 449, 473
accessing, 363
defined, 363
example illustration, 368
with extended definition selected, 402
headings, 401
illustrated, 363, 473
page 2, 452, 473
Specify extended definition option, 363

Work with Job Spooled Files screen, 86

Work with Libraries Using PDM screen, 130–132
accessing, 128
alternate format, 130
defined, 130
illustrated, 129
selecting same option for multiple libraries, 131

Work with Members Using PDM screen, 135–136, 259–260, 286, 289, 340, 347, 468
accessing, 135, 161
Change using SDA option, 467
Compile option, 165, 259–260, 340
Edit option, 162
File parameter, 289
illustrated, 135
More options, 165
in multicolumn format, 161
options, 135–136
Source file parameter, 289
Source member parameter, 289

Work with Messages screen, 167

Work with Objects Using PDM screen, 132–135, 184, 240, 309
accessing, 132
defined, 151
format, 133
illustrated, 151, 311
with menu members selected, 464
new DFU program added, 377
options, 135
Rename option, 310
returning to library list from, 133
single-column format (page 1), 134
single-column format (page 3), 134
three-column format (page 1), 133

Work with Output Queue screen, 82

Work with Printer Output screen
accessing, 112
Basic assistance level, 111
illustrated, 113
message line, 114
Printer/Output column, 113
printing, 115

Work with Printers screen
Basic assistance level, 105, 118
Intermediate assistance level, 105, 118

Work with Queries screen, 228, 240, 241
accessing, 188
functions, 189–190

illustrated, 189
options, 228
prompt list, 190

Work with Record Formats screen, 361

Work with System Values screen, 27

Work with User Jobs screen, 84

WRKACTJOB (Work with Active Jobs) command, 516

WRKMBRPDM (Work with Members Using PDM) command, 161

WRKOBJPDM (Work with Objects Using PDM) command, 128, 132, 167, 235, 326

WRKOUTQ (Work with Output Queue) command, 97, 101–106, 176
defined, 101
function keys, 104
list screen, 97, 102
with “Not Authorized” message, 104
options, 103
OUTQ parameter, 101, 117
prompt screen, 101
using, 104

WRKPRB (Work with Problems) command, 18

WRKQRY (Work with Queries) command, 188, 470

WRKSPLF (Work with Spooled Files) command, 97, 106–107
for cleaning up spooled files, 119
defined, 101, 106
formats, 110–111
list screen, 97
with no parameters, 107
options, 107
prompt screen, 106
screen example, 107

WRKUSRJOB (Work with User Jobs) command, 84, 89

Y

Year function, 212

Z

Zoned decimal data type, 143