

Index

A

ACCDESC= option 74
 ACCDESC statement 99
 access descriptors 5
See also SAS/ACCESS descriptors
 creating 79
 definition 5
 dropping variables from 81
 naming 99
 selecting data for view descriptors 87
 access mode
 overriding 128
 specifying 106
 storing 88
 ACCESS= option 74
 ACCESS procedure 73
 ACCDESC= option 74
 ACCESS= option 74
 AD= option 74
 ASSIGN= statement 78
 BYKEY statement 79
 CREATE statement 79
 data conversions 96
 DATABASE statement 80
 database-description statements 77
 DBMS= option 75
 DROP statement 81
 editing statements 77
 EXIT statement 85
 FORMAT statement 81
 INFORMAT statement 82
 interface view engine calls 121
 LENGTH statement 83
 LIST statement 84
 options 74
 OUT= option 75
 overview 73
 PROC ACCESS statement 74
 QUIT statement 85
 RENAME statement 85
 RESET statement 86
 S2KPW= statement 88
 SELECT statement 87
 SUBSET statement 88
 terminating 85
 UNIQUE statement 89
 VD= option 75
 VIEWDESC= option 75
 ACCESS statement 99

AD= option 74
 AD statement 99
 ancestor records 11
 AND operator, WHERE clauses 93
 APPEND procedure, updating SYSTEM 2000
 data 52
 appending data
 example 53
 overview 52
 to Version 7 files 56
 to view descriptors 58
 ASSIGN= statement 78
 AT operator, WHERE clauses 94, 141
 attention interrupts, TSO 117, 118
 averages, calculating 28

B

binary operators, WHERE clauses 93
 BLANKS option 112
 blanks, in character item types 15
 BY keys
 considerations for 131
 definition 130
 examples 130
 BYKEY statement 79

C

children records 11
 column names
 from SAS labels 102
 length of 105
 columns
 renaming 104
 resetting to defaults 105
 comment delimiters, /*...*/ 114
 connecting strings 139
 CONTAINS operator, WHERE clauses 93
 CONTENTS procedure, reviewing variables 24
 CREATE statement 79, 100
 creating
 access descriptors 79
 database definitions 100
 new database items 35
 SAS/ACCESS descriptor files, WHERE statement 108

SAS/ACCESS descriptors in one PROC
 step 20
 SAS/ACCESS descriptors in separate PROC
 steps 22
 SYSTEM 2000 databases, DBLOAD procedure 63
 SYSTEM 2000 databases, example 66
 view descriptors 108

D

data 23
 data files 36
 data set options
 definition 128
 syntax 128
 database administration
See also interface view engine calls
 SAS/ACCESS software, interface to SYSTEM 2000 119
 database definitions
 changing, effects on descriptors 122
 creating 100
 definition 8
 example used in this book 64, 143
 database files
 allocating 109
 definition 18
 database names 9
 DATABASE statement 80
 databases 8
 DATASETS procedure
 assigning passwords 76
 reviewing variables 24
 DBA passwords 17
 DBLOAD procedure 97
 ACCDESC statement 99
 ACCESS statement 99
 AD statement 99
 CREATE statement 100
 creating and loading SYSTEM 2000
 databases 63
 DBN statement 100
 DELETE statement 101
 END statement 104
 EXIT statement 104
 INDEX statement 102
 interface view engine calls 121
 LABEL statement 102

LEVEL statement 102
 LIST statement 103
 LOAD statement 103
 PROC DBLOAD statement, options 98
 PROC DBLOAD statement, syntax 98
 QUIT statement 104
 RENAME statement 104
 RESET statement 105
 S2KLEN statement 105
 S2KLOAD statement 106
 S2KMD= statement 106
 S2KMODE= statement 106
 S2KPW= statement 107
 statements 99
 terminating 104
 VD statement 107
 VIEWDESC statement 107
 WHERE statement 108
 DBMS= option 75
 DBN statement 100
 DELETE statement
 DBLOAD procedure 101
 SQL procedure, definition 49
 SQL procedure, WHERE clauses 52
 deleting records 47, 129
 See dropping
 descendant records 11
 DROP statement 81
 dropping 101
 See also deleting records
 records when loading databases 101
 variables from access descriptors 81

E

ECHO statement 115
 END statement 104
 example data in this book
 database definition 143
 MYDATA.CLASSES file 157
 MYDATA.CORPHON file 159
 MYLIB.EMPLOYEE access descriptor 145
 overview 6
 SAS/ACCESS descriptors 145
 SAS data files 157
 TRANS.BANKING file 160
 V6.BIRTHDY file 157
 V7.CONULTING_BIRTHDAYS file 158
 view descriptors 147
 VLIB.EMPBD view descriptor 147
 VLIB.EMPEDUC view descriptor 147
 VLIB.EMPPHON view descriptor 149
 VLIB.EMPPOS view descriptor 150
 VLIB.EMPSKIL view descriptor 152
 VLIB.EMPVAC view descriptor 154
 execution environments 18
 EXIT statement 85, 104

F

family of records 12

FORMAT statement 81
 formats 81
 FREQ procedure 27
 FSBROWSE procedure, browsing SYSTEM 2000 data 44
 FSEDIT procedure, updating SYSTEM 2000 data 45
 FSVIEW procedure
 browsing SYSTEM 2000 data 45
 updating SYSTEM 2000 data 46

H

HAS operator, WHERE clauses 94, 141

I

INDEX statement 102
 indexing 16, 102
 INFORMAT statement 82
 informats 82
 insert mode 70
 INSERT statement, SQL procedure 49
 inserting records 47, 129
 interface view engine calls 120
 from ACCESS procedure 121
 from DBLOAD procedure 121
 from QUEST procedure 121
 from SAS procedures 121
 overview 120
 interface view engines, WHERE clauses 46

K

key items 16

L

LABEL statement 102
 LENGTH statement 83
 LEVEL statement 102
 LIST statement 84, 103
 LOAD statement 103
 loading SYSTEM 2000 databases 97
 locking levels 125
 logging messages 115
 logical entries
 adding and updating 69
 definition 12

M

master passwords 17
 MCS statement 113

MEANS procedure 28
 messages, logging 115
 missing values 13
 multi-user environment
 definition 18
 enabling 106
 MYDATA.CLASSES file 157
 MYDATA.CORPHON file 159
 MYLIB.EMPLOYEE access descriptor 145

N

NON-KEY operator 141
 NOT operator 138
 NOT operator, WHERE clauses 93
 null data 13
 character variables 132
 definition 13
 from deleting records 48, 129
 in selection criteria 133
 numeric values 132
 retrieving 132
 updating 133

O

observations, definition 23
 optimized load mode 70
 OR operator, WHERE clauses 93, 141
 ordering clauses 94
 OUT= option 75
 overriding run-time options 128

P

parent records 11
 passwords 17
 assigning 76, 107
 changing 76, 122
 clearing 76
 DBA 17
 master 17
 overriding 128
 overview 17
 secondary 17
 specifying 75
 storing 88
 percentages, calculating 27
 performance considerations
 sorting 95
 SYSTEM 2000 software 125
 printing data 25
 PROC ACCESS statement 74

- PROC QUEST statement
 options 112
 syntax 112
- PROC SQL GROUP BY clause 35
- procedures
 See also ACCESS procedure
 See also DBLOAD procedure
 See also QUEST procedure
 APPEND, updating SYSTEM 2000 data 52
 CONTENTS, reviewing variables 24
 DATASETS, assigning passwords 76
 DATASETS, reviewing variables 24
 FREQ 27
 FSBROWSE, browsing SYSTEM 2000 data 44
 FSEDIT, updating SYSTEM 2000 data 45
 FSVIEW, browsing SYSTEM 2000 data 45
 FSVIEW, updating SYSTEM 2000 data 46
 MEANS 28
 RANK 30
 SQL, browsing SYSTEM 2000 data 49
 SQL, updating SYSTEM 2000 data 49
 processing order, WHERE clauses 94
- Q**
- QUEST procedure 111
 attention interrupts, TSO 117, 118
 BLANKS option 112
 browsing SYSTEM 2000 data 58
 command files 117
 ECHO statement 115
 interface view engine calls 121
 MCS statement 113
 multi-user operation 117
 PROC QUEST statement, options 112
 PROC QUEST statement, syntax 112
 QUIT statement 114
 quoted strings 115
 S2KMD option 112
 S2KMD= statement 116
 S2KMOD option 112
 S2KMODE= statement 116
 S2KPARMS file 116
 SCS statement 114
 single-user operation 116
 statement-queuing mode, multiple commands 113
 statements, maximum length of 114
 statements, reading from a file 117
 statements, saving in a file 117
 statements, syntax 112
 SYSTEM 2000 statements, logging 115
 SYSTEM 2000 statements, strings and functions 116
 SYSTEM 2000 statements, syntax 114
 temporary output files 117
 terminating 114
 updating SYSTEM 2000 data 58
- QUIT statement 85, 104, 114
- R**
- rank order, calculating 30
- RANK procedure 30
- record paths 11
- RENAME statement 85, 104
- RESET statement 86, 105
- rollback log 124
- run-time options, overriding 128
- S**
- S2KLEN statement 105
- S2KLOAD statement 106
- S2KMD option 112
- S2KMD= statement
 DBLOAD procedure 106
 overriding access mode 128
 QUEST procedure 116
- S2KMOD option 112
- S2KMODE= statement
 DBLOAD procedure 106
 overriding access mode 128
 QUEST procedure 116
- S2KPW= statement
 ACCESS procedure 88
 DBLOAD procedure 107
 passwords, overriding 128
- SAS/ACCESS descriptors 145
 See also access descriptors
 See also view descriptors
 changing database definitions, effects of 122
 creating 108
 creating in one PROC step 20
 creating in separate PROC steps 22
 listing 84
 overview 4, 19
 passwords 75
- SAS/ACCESS software
 interface, overview of 3
 purpose of 3
- SAS data files, examples used in this book 64, 157
- SAS data files, updating
 overview 36
 Version 6 36
 Version 7 38
- SAS formats 81
 assigning 81
 assigning to SYSTEM 2000 data 81
 default conversions 109
 inheriting variable names 78
 reviewing 24
- SAS/FSP procedures
 browsing SYSTEM 2000 data 44
 updating SYSTEM 2000 data 44
- SAS informats 82
 assigning 82
 assigning to SYSTEM 2000 data 82
 default conversions 109
 reviewing 24
- SAS System security 124
- SAS variable names 78
 inheriting 78
 resetting to defaults 86
 unique, generating 89
- SAS variables 23
 definition 23
 reviewing 24
- schema item types
 character 15
 date 15
 numeric 14
 overview 14
 time 15
- schema items
 definition 9
 indexing 16
 null data 13
- schema records
 definition 9
 null data 13
 relationships between 10
- SCS statement 114
- secondary passwords 17
- security
 See also passwords
 SAS System 124
 SYSTEM 2000 123
- SELECT statement
 ACCESS procedure 87
 SQL procedure 49
- semicolon (;), statement delimiter 114
- single-user environment
 definition 18
 enabling 106
- sort keys, designating 79
- sorting database output
 overview 17
 performance considerations 40
- SQL procedure
 browsing SYSTEM 2000 data 49
 updating SYSTEM 2000 data 49
- statement-queuing mode, single commands 114
- statistics, calculating 27
- stored strings 141
- SUBSET statement 88
- subsetting
 overview 16
 SYSTEM 2000 database input data 68
 view descriptors 88
 when browsing SYSTEM 2000 data 46
 while browsing or editing 46
- SYSTEM 2000 data 23
- averages, calculating 28

character width, specifying 83
 charting 26
 combining 31
 creating new items 35
 data order, specifying 94
 data types, resetting to defaults 105
 formats, assigning 81
 formats, reviewing 24
 FREQ procedure 27
 grouping 10
 informats, assigning 82
 informats, reviewing 24
 labeling 9
 mapping between SYSTEM 2000 and SAS System 13
 MEANS procedure 28
 observations, definition 23
 overview 23
 percentages, calculating 27
 printing 25
 PROC SQL GROUP BY clause 35
 rank order, calculating 30
 RANK procedure 30
 selecting with WHERE clauses 30
 statistics, calculating 27
 subsetting 16
 updating data files, overview 36
 updating data files, Version 6 36
 updating data files, Version 7 38
 variables, definition 23
 variables, reviewing 24
 WHERE clauses 31
SYSTEM 2000 data, browsing
 overview 43
 subsetting data 46
 WHERE clauses 46
 with FSBROWSE procedure 44
 with FSVIEW procedure 45
 with SAS/FSP procedures 44
 with SQL procedure 49
 with the QUEST procedure 58
SYSTEM 2000 data, updating
 APPEND procedure 52
 appending data, example 53
 appending data, overview 52
 appending data, to Version 7 files 56
 appending data, to view descriptors 58
 deleting records 47
 overview 43
 subsetting data 46
 WHERE clauses 46
 with FSEDIT procedure 45
 with FSVIEW procedure 46
 with SAS/FSP procedures 44
 with SQL procedure 49
 with the QUEST procedure 58
SYSTEM 2000 databases 8
 access mode, specifying 106
 ancestor records 11
 blanks, in character item types 15

children records 11
 column names, from SAS labels 102
 column names, length of 106
 columns, renaming 104
 columns, resetting to defaults 105
 data files, example 64
 data types, resetting to defaults 105
 database definitions, definition 8
 database definitions, example 64
 database files, allocating 109
 database files, definition 18
 database names 9
 DBA passwords 17
DBLOAD procedure 63
 deleting records 47
 descendant records 11
 execution environments 18
 family of records 12
 grouping data 10
 indexing 16
 insert mode 70
 inserting records 47, 129
 key items 16
 labeling data 9
 level numbers, specifying 102
 locking levels 125
 logical entries, adding and updating 69
 logical entries, definition 12
 mapping to/from the SAS System 13
 master passwords 17
 multi-user environment, definition 18
 multi-user environment, enabling 106
 naming 100
 null data, definition 13
 optimized load mode 70
 optimized load processing, enabling 106
 parent records 11
 passwords 17, 107
 record paths 11
 renaming items 85
 rolling back changes 124
 schema item types, character 15
 schema item types, date 15
 schema item types, numeric 14
 schema item types, overview 14
 schema item types, time 15
 schema items, definition 9
 schema items, indexing 16
 schema items, null data 13
 schema records, definition 9
 schema records, null data 13
 schema records, relationships between 10
 secondary passwords 17
 single-user environment, definition 18
 single-user environment, enabling 106
 single-user operation 116
 sorting output 17
 specifying 80
 subsetting input data 68
 subsetting output data 16

where-clauses, definition 16
SYSTEM 2000 databases, creating
See also DBLOAD procedure
See also QUEST procedure
 example 66
SYSTEM 2000 databases, loading
See also DBLOAD procedure
 dropping records 101
 from another SYSTEM 2000 database 110
 from different paths 110
 from scratch, example 66
 incrementally, example 69
 insert mode 70
 listing variables 103
LOAD statement 104
 optimized load mode 70
 selecting processing mode 70
SYSTEM 2000 databases, updating
 BY key considerations 131
 deleting records 129
 with BY keys, definition 130
 with BY keys, examples 130
SYSTEM 2000 messages, logging 115
SYSTEM 2000 security 123
SYSTEM 2000 software, definition 8
SYSTEM 2000 statements
 logging 115
 strings and functions 116
 syntax 114

T

ternary operators, WHERE clauses 93
TRANS.BANKING file 160
TSO, attention interrupts 117, 118

U

unary operators, WHERE clauses 92
UNIQUE statement 89
UPDATE statement, SQL procedure 49

V

V6.BIRTHDY file 157
V7CONSULTING_BIRTHDAYS file 158
 variable names 78
 variables 23
 VD= option 75
VD statement 107
 view descriptors 5
See also SAS/ACCESS descriptors
 appending to 58
 creating 108
 data set options, definition 128
 data set options, syntax 128
 definition 5

examples used in this book 147
 mapping data between SYSTEM 2000 and SAS System 13
 multiple per SAS session 129
 naming 107
 overriding run-time options 128
 VIEWDESC= option 75
 VIEWDESC statement 107
 VLIB.EMPBD view descriptor 147
 VLIB.EMPEDUC view descriptor 147
 VLIB.EMPPHON view descriptor 149
 VLIB.EMPPOS view descriptor 150
 VLIB.EMPSKIL view descriptor 152
 VLIB.EMPVAC view descriptor 154

W

WHERE clauses (SAS)
 and DELETE statements 52
 and interface view engines 46

as selection criteria 134, 139
 browsing SYSTEM 2000 data 46
 combining with where-clauses 139
 connecting strings 139
 delimiters, changing 115
 NOT operator 138
 selecting data 30
 syntax 90
 translating to SYSTEM 2000 where-clauses 136, 137
 updating SYSTEM 2000 data 46
 using 31
 WHERE clauses (SAS), examples
 AND operator 93
 AT operator 94
 binary operators 93
 CONTAINS operator 93
 HAS operator 94
 NOT operator 93
 OR operator 93
 processing order 94

ternary operators 93
 unary operators 92
 WHERE statement 108
 where-clauses (SYSTEM 2000)
 as selection criteria 138
 AT operator 141
 combining with WHERE clauses 139
 connecting strings 139
 definition 16
 HAS operator 141
 NON-KEY operator 141
 omitting SAS WHERE clauses 140
 OR operator 141
 stored strings 141
 syntax limitations 140

Special Characters

/*...*/, comment delimiters 114
 ; (semicolon), statement delimiter 114