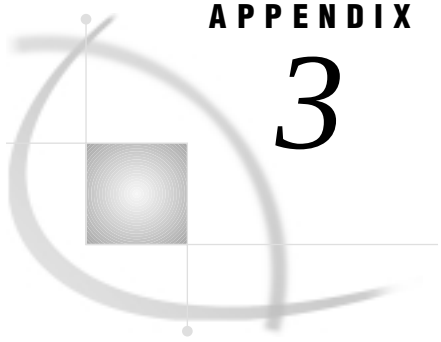

APPENDIX

3

Example Data

Introduction

This appendix provides information about the ADABAS files, NATURAL DDMs, access descriptors, view descriptors, and SAS data files used in the examples in this book.

It shows the ADABAS data definition statements and the data that were used to build the ADABAS files. It also shows the access descriptors and view descriptors, along with any selection criteria. In addition, this appendix shows the data and the SAS statements that were used to create the SAS data files for the examples.

If you want to run the examples in this book, contact your SAS Software Representative for information on accessing the sample library files. The sample files contain instructions for creating the ADABAS files. The steps are as follows:

1. Create the ADABAS files using the ADABAS data definition statements.
2. Create the NATURAL DDMs for the ADABAS files as shown in each description.
3. Create the SAS data files.
4. Create an access descriptor and an associated view descriptor for each ADABAS file. Make sure that all SAS names match between the view descriptor and the ADABAS file. Use the access descriptors in this appendix as a model. Select every field for the access descriptors, and create views that also select every field.
5. Run the APPEND procedure with the data set options shown below. Use the SAS data file to update the view.

```
proc append data=SAS-file base=view-descriptor;
run;
```

ADABAS Files

This section describes the ADABAS files associated with the NATURAL DDMs that are used in this book's examples. For each file, the following information is provided:

- the ADABAS data definition statements used to create the ADABAS file
- the SAS DATA step used to create the SAS data file for populating the ADABAS file
- the example data.

The four ADABAS files used in the examples are named CUSTOMERS, EMPLOYEE, INVOICE, and ORDER.

CUSTOMERS ADABAS File

The CUSTOMERS file was created with the following ADABAS data definition statements:

```
//STEP01.DDCARD DD *
ADARUN PROGRAM=ADACMP
ADARUN DATABASE=001
ADARUN DEVICE=3380
ADARUN MODE=MULTI
ADARUN SVC=253
//STEP01.DDKARTE  DD  *
ADACMP COMPRESS
```

```
ADACMP FILE=45
ADACMP NUMREC=0
ADACMP FNDEF='01,CU,008,A,DE'
ADACMP FNDEF='01,SZ'
ADACMP FNDEF='02,ST,002,A,DE'
ADACMP FNDEF='02,ZI,005,U'
ADACMP FNDEF='01,CY,020,A,DE'
ADACMP FNDEF='01,PH,012,A'
ADACMP FNDEF='01,NA,060,A'
ADACMP FNDEF='01,CN,030,A'
ADACMP FNDEF='01,AD,040,A'
ADACMP FNDEF='01,CI,025,A'
ADACMP FNDEF='01,FO,006,U'
ADACMP FNDEF='01,SL,PE'
ADACMP FNDEF='02,LI,0014,U'
ADACMP FNDEF='02,SI,0030,A'
ADACMP FNDEF='01,BR,0025,A,MU(10)'
ADACMP SUPDE='SP=ST(1,2),ZI(1,2)'
ADACMP SUBDE='SB=ZI(1,2)'
//STEP02.DDCARD   DD  *
ADARUN PROGRAM=ADALOD
ADARUN DATABASE=001
ADARUN DEVICE=3380
ADARUN MODE=MULTI
ADARUN SVC=253
//STEP02.DDKARTE  DD  *
ADALOD LOAD FILE=45
ADALOD      DSSIZE=5B
ADALOD      NAME=CUSTOMERS
ADALOD      MAXISN=100
ADALOD      DSDEV=3380
ADALOD      TEMPDEV=3380
ADALOD      SORTSIZE=5
ADALOD      TEMPSIZE=5
```

The DATA step is as follows:

```
data customer;
     /* customer number        */
     input @1   custnum     $8.
           @10  state       $2.
           /* zipcode if company is  */
           /* in the U.S.; otherwise */
           /* it is the mail code    */
           /* appropriate for the    */
           /* country where the      */
           /* company is located     */
           @13  zipcode     5.
           @20  country     $20.
           @42  phone       $12.  /
           /* customer's company name*/
           @1   name        $60.  /
           /* contact at customer's  */
           /* company                */
           @1   contact     $30.
```

```
        @31  street      $40.  /
        @1   city        $25.
        /* date of first order    */
        @30  firstord    yymmdd6./
        /* signature limit #1     */
        @1   limit       15.2
        /* signature name  #1     */
        @20  signatur    $30. /
        /* branch office #1       */
        @1   branch_1    $25.
        /* branch office #2       */
        @30  branch_2    $25. /
        /* branch office #3       */
        @1   branch_3    $25.
        /* branch office #4       */
        @30  branch_4    $25.;
    format firstord date7.;
    datalines;
```

The data are shown in Output A3.1 on page 141, Output A3.2 on page 142, Output A3.3 on page 143, and Output A3.4 on page 144.

Output A3.1 Data in CUSTOMERS ADABAS File —Part 1

```
 ************* CUSTOMER DATA ************
OBS  CUSTNUM     STATE    ZIPCODE    COUNTRY                  PHONE

  1  12345678     NC           .     USA                      919/489-5682
  2  14324742     CA       95123     USA                      408/629-0589
  3  14324742     CA       95123     USA                      408/629-0589
  4  14569877     NC       27514     USA                      919/489-6792
  5  14569877     NC       27514     USA                      919/489-6792
  6  14898029     MD       20850     USA                      301/760-2541
  7  14898029     MD       20850     USA                      301/760-2541
  8  14898029     MD       20850     USA                      301/760-2541

OBS  NAME

  1
  2  SANTA CLARA VALLEY TECHNOLOGY SPECIALISTS
  3  SANTA CLARA VALLEY TECHNOLOGY SPECIALISTS
  4  PRECISION PRODUCTS
  5  PRECISION PRODUCTS
  6  UNIVERSITY BIOMEDICAL MATERIALS
  7  UNIVERSITY BIOMEDICAL MATERIALS
  8  UNIVERSITY BIOMEDICAL MATERIALS

OBS  CONTACT                       STREET

  1
  2  A. BAUM                       5089 CALERO AVENUE
  3  A. BAUM                       5089 CALERO AVENUE
  4  CHARLES BARON                 198 FAYETTVILLE ROAD
  5  CHARLES BARON                 198 FAYETTVILLE ROAD
  6  S. TURNER                     1598 PICCARD DRIVE
  7  S. TURNER                     1598 PICCARD DRIVE
  8  S. TURNER                     1598 PICCARD DRIVE

OBS  CITY                FIRSTORD   LIMIT  SIGNATUR          BRANCH_1

  1                             .       .
  2  SAN JOSE            05FEB65     5000  BOB HENSON        TORONTO
  3  SAN JOSE            05FEB65    25000  KAREN DRESSER     TORONTO
  4  MEMPHIS             15AUG83     5000  JEAN CRANDALL     NEW YORK
  5  MEMPHIS             15AUG83   100000  STEVE BLUNTSEN    NEW YORK
  6  ROCKVILLE           12NOV76    10000  MASON FOXWORTH    NEW YORK
  7  ROCKVILLE           12NOV76    50000  DANIEL STEVENS    NEW YORK
  8  ROCKVILLE           12NOV76   100000  ELIZABETH PATTON  NEW YORK

OBS  BRANCH_2    BRANCH_3         BRANCH_4

  1
  2  HOUSTON     TOKYO            LONDON
  3  HOUSTON     TOKYO            LONDON
  4  CHICAGO     LOS ANGELES
  5  CHICAGO     LOS ANGELES
  6  CHICAGO     DALLAS
  7  CHICAGO     DALLAS
  8  CHICAGO     DALLAS
```

Output A3.2 Data in CUSTOMERS ADABAS File —Part 2

```
 ************* CUSTOMER DATA ************

OBS  CUSTNUM     STATE    ZIPCODE    COUNTRY                 PHONE

  9  15432147     MI       49001     USA                     616/582-3906
 10  18543489     TX       78701     USA                     512/478-0788
 11  18543489     TX       78701     USA                     512/478-0788
 12  18543489     TX       78701     USA                     512/478-0788
 13  19783482     VA       22090     USA                     703/714-2900
 14  19783482     VA       22090     USA                     703/714-2900
 15  19876078     CA       93274     USA                     209/686-3953
 16  19876078     CA       93274     USA                     209/686-3953

OBS  NAME

  9  GREAT LAKES LABORATORY EQUIPMENT MANUFACTURERS
 10  LONE STAR STATE RESEARCH SUPPLIERS
 11  LONE STAR STATE RESEARCH SUPPLIERS
 12  LONE STAR STATE RESEARCH SUPPLIERS
 13  TWENTY-FIRST CENTURY MATERIALS
 14  TWENTY-FIRST CENTURY MATERIALS
 15  SAN JOAQUIN SCIENTIFIC AND INDUSTRIAL SUPPLY, INC.
 16  SAN JOAQUIN SCIENTIFIC AND INDUSTRIAL SUPPLY, INC.

OBS  CONTACT                      STREET

  9  D.W. KADARAUCH               103 HARRIET STREET
 10  A. SILVERIA                  5609 RIO GRANDE
 11  A. SILVERIA                  5609 RIO GRANDE
 12  A. SILVERIA                  5609 RIO GRANDE
 13  M.R. HEFFERNAN               4613 MICHAEL FARADAY DRIVE
 14  M.R. HEFFERNAN               4613 MICHAEL FARADAY DRIVE
 15  J.A. WHITTEN                 1095 HIGHWAY 99 SOUTH
 16  J.A. WHITTEN                 1095 HIGHWAY 99 SOUTH

OBS  CITY               FIRSTORD   LIMIT  SIGNATUR          BRANCH_1

  9  KALAMAZOO          28APR86    10000  JACK TREVANE      CHICAGO
 10  AUSTIN             10SEP79    10000  NANCY WALSH       HOUSTON
 11  AUSTIN             10SEP79    50000  TED WHISTLER      HOUSTON
 12  AUSTIN             10SEP79   100000  EVAN MASSEY       HOUSTON
 13  RESTON             18JUL68     5000  PETER THOMAS      WASHINGTON D.C.
 14  RESTON             18JUL68    10000  LOUIS PICKERING   WASHINGTON D.C.
 15  TULARE             11MAY79     7500  EDWARD LOWE
 16  TULARE             11MAY79    25000  E.F. JENSEN

OBS  BRANCH_2    BRANCH_3         BRANCH_4

  9  COLUMBUS
 10  DALLAS       EL PASO          LUBBOCK
 11  DALLAS       EL PASO          LUBBOCK
 12  DALLAS       EL PASO          LUBBOCK
 13  NEW YORK
 14  NEW YORK
 15
 16
```

Output A3.3 Data in CUSTOMERS ADABAS File —Part 3

```
 ************* CUSTOMER DATA ************
OBS  CUSTNUM     STATE    ZIPCODE    COUNTRY                 PHONE

 17  24589689                 .     Yugoslavia              (012)736-202
 18  26422096             75014     France                  4268-54-72
 19  26422096             75014     France                  4268-54-72
 20  26984578              5110     Austria                 43-57-04
 21  27654351              5010     Belgium                 02/215-37-32
 22  28710427     HV       3607     Netherlands             (021)570517
 23  29834248                 .     Britain                 (0552)715311
 24  31548901     BC          .     Canada                  406/422-3413

OBS  NAME

 17  CENTAR ZA TECHNICKU I NAUCNU RESTAURIRANJE UMJETNINA
 18  SOCIETE DE RECHERCHES POUR DE CHIRURGIE ORTHOPEDIQUE
 19  SOCIETE DE RECHERCHES POUR DE CHIRURGIE ORTHOPEDIQUE
 20  INSTITUT FUR TEXTIL-FORSCHUNGS
 21  INSTITUT DE RECHERCHE SCIENTIFIQUE MEDICALE
 22  ANTONIE VAN LEEUWENHOEK VERENIGING VOOR MICROBIOLOGIE
 23  BRITISH MEDICAL RESEARCH AND SURGICAL SUPPLY
 24  NATIONAL COUNCIL FOR MATERIALS RESEARCH

OBS  CONTACT                      STREET

 17  J.V. VUKASINOVIC             TAKOVSKA 4
 18  Y. CHAVANON                  40 RUE PERIGNON
 19  Y. CHAVANON                  40 RUE PERIGNON
 20  GUNTER SPIELMANN             MECHITARISTENGASSE 5
 21  I. CLEMENS                   103 RUE D'EGMONT
 22  M.C. BORGSTEEDE              BIRMOERSTRAAT 34
 23  A.D.M. BRYCESON              44 PRINCESS GATE, HYDE PARK
 24  W.E. MACDONALD               5063 RICHMOND MALL

OBS  CITY                FIRSTORD   LIMIT  SIGNATUR          BRANCH_1

 17  BELGRADE             30NOV81        .
 18  LA ROCHELLE          14JUN83     5000  MICHELE PICARD    LONDON
 19  LA ROCHELLE          14JUN83    10000  M.L. SEIS         LONDON
 20  VIENNA               25MAY87   100000  FRANZ BECH        LONDON
 21  BRUSSELS             14OCT86     5000  C.J. HELMER       LONDON
 22  THE HAGUE            10OCT85    10000  J.J. JASPER       LONDON
 23  LONDON, SW7 1PU      29JAN86     5000  ELVIN POMEROY     SINGAPORE
 24  VANCOUVER, V5T 1L2   19MAR84     1000  DAPHNE MARSHALL   SEATTLE

OBS  BRANCH_2    BRANCH_3         BRANCH_4

 17
 18  NEW YORK
 19  NEW YORK
 20  NEW YORK    ROME
 21  BOSTON
 22
 23  TORONTO     CAIRO
 24  TORONTO
```

Output A3.4 Data in CUSTOMERS ADABAS File —Part 4

```
 ************* CUSTOMER DATA ************

OBS  CUSTNUM     STATE    ZIPCODE    COUNTRY                 PHONE

 25  38763919              1405     Argentina               244-6324
 26  39045213     SP       1051     Brazil                  012/302-1021
 27  43290587                 .     Japan                   (02)933-3212
 28  43459747              3181     Australia               03/734-5111
 29  43459747              3181     Australia               03/734-5111
 30  46543295                 .     Japan                   (03)022-2332
 31  46783280              2374     Singapore               3762855
 32  48345514                 .     United Arab Emirates    213445

OBS  NAME

 25  INSTITUTO DE BIOLOGIA Y MEDICINA NUCLEAR
 26  LABORATORIO DE PESQUISAS VETERNINARIAS DESIDERIO FINAMOR
 27  HASSEI SAIBO GAKKAI
 28  RESEARCH OUTFITTERS
 29  RESEARCH OUTFITTERS
 30  WESTERN TECHNOLOGICAL SUPPLY
 31  NGEE TECHNOLOGICAL INSTITUTE
 32  GULF SCIENTIFIC SUPPLIES

OBS  CONTACT                      STREET

 25  JORGE RUNNAZZO               SALGUERO 2345
 26  ELISABETE REGIS GUILLAUMON   RUA DONA ANTONIA DE QUEIROS 381
 27  Y. FUKUDA                    3-2-7 ETCHUJMA, KOTO-KU
 28  R.G. HUGHES                  191 LOWER PLENTY ROAD
 29  R.G. HUGHES                  191 LOWER PLENTY ROAD
 30                               4-3-8 ETCHUJMA, KOTO-KU
 31  LING TAO SOON                356 CLEMENTI ROAD
 32  J.Q. RIFAII                  POB 8032

OBS  CITY               FIRSTORD   LIMIT  SIGNATUR          BRANCH_1

 25  BUENOS AIRES        10DEC84     2500  M.L. CARLOS       MIAMI
 26  SAO PAULO           18AUG82     1500  RICK ESTABAN      MIAMI
 27  TOKYO 101           08FEB74    10000  R. YAMOTO         SAN FRANCISCO
 28  PRAHRAN, VICTORIA   28JUL72     1000  DENNIS RICHMOND   SEATTLE
 29  PRAHRAN, VICTORIA   28JUL72     5000  JANICE HEATH      SEATTLE
 30  TOKYO 102           19APR84    10000  DAPHNE MARSHALL   SEATTLE
 31  SINGAPORE           27SEP79        .
 32  RAS AL KHAIMAH      10SEP86        .

OBS  BRANCH_2    BRANCH_3         BRANCH_4

 25  NEW YORK
 26  NEW YORK
 27
 28
 29
 30  TORONTO     SAN FRANCISCO    DENVER
 31
 32
```

EMPLOYEE ADABAS File

The EMPLOYEE ADABAS file was created with the following ADABAS data definition statements:

```
//STEP01.DDCARD DD *
ADARUN PROGRAM=ADACMP
ADARUN DATABASE=001
ADARUN DEVICE=3380
ADARUN MODE=MULTI
ADARUN SVC=253
//STEP01.DDKARTE  DD  *
ADACMP COMPRESS
ADACMP FILE=46
ADACMP NUMREC=0
ADACMP FNDEF='01,ID,006,U,DE'
ADACMP FNDEF='01,HD,006,U'
ADACMP FNDEF='01,SA,007,U'
ADACMP FNDEF='01,DP,006,A'
ADACMP FNDEF='01,JC,005,U,DE'
ADACMP FNDEF='01,SX,001,A'
ADACMP FNDEF='01,BD,006,U'
ADACMP FNDEF='01,LN,018,A,DE'
ADACMP FNDEF='01,FN,015,A'
ADACMP FNDEF='01,MN,015,A'
ADACMP FNDEF='01,PH,004,A'
//STEP02.DDCARD   DD  *
ADARUN PROGRAM=ADALOD
ADARUN DATABASE=001
ADARUN DEVICE=3380
ADARUN MODE=MULTI
ADARUN SVC=253
//STEP02.DDKARTE  DD  *
ADALOD LOAD FILE=46
ADALOD      DSSIZE=5B
ADALOD      NAME=EMPLOYEE
ADALOD      MAXISN=100
ADALOD      DSDEV=3380
ADALOD      TEMPDEV=3380
ADALOD      SORTSIZE=5
ADALOD      TEMPSIZE=5
```

The DATA step is as follows:

```
data employ;
    /* employee id number        */
    input @1  empid     6.
          @10 hiredate  yymmdd6.
          @20 salary    8.2
          @30 dept      $6.
          @40 jobcode   5.
          @47 sex       $1.
          @50 birthdat  yymmdd6. /
          @1  lastname  $18.
          @20 firstnam  $15.
```

```
      @40 middlena  $15.
      @60 phone     $4. ;
format hiredate date7.;
format birthdat date7.;
datalines;
```

The data are shown in Output A3.5 on page 146.

Output A3.5 Data for EMPLOYEE ADABAS File

EMPID	HIREDATE	SALARY	DEPT	JOBCODE	SEX	BIRTHDAT
119012	01JUL68	42340.58	CSR010	602	F	05JAN46
120591	05DEC80	31000.55	SHP002	602	F	12FEB46
123456	04APR89	.		.		.
127845	16JAN67	75320.34	ACC024	204	M	25DEC43
129540	01AUG82	56123.34	SHP002	204	F	31JUL60
135673	15JUL84	46322.58	ACC013	602	F	21MAR61
212916	15FEB51	52345.58	CSR010	602	F	29MAY28
216382	15JUN85	34004.65	SHP013	602	F	24JUL63
234967	19DEC88	17000.00	CSR004	602	M	21DEC67
237642	01NOV76	43200.34	SHP013	602	M	13MAR54
239185	07MAY81	57920.66	ACC024	602	M	28AUG59
254896	04APR85	35000.74	CSR011	204	M	06APR49
321783	10SEP67	48931.58	CSR011	602	M	03JUN35
328140	10JAN75	75000.34	ACC043	1204	F	02JUN51
346917	02MAR87	46000.33	SHP013	204	F	15MAR50
356134	14JUN85	62450.75	ACC013	204	F	25OCT60
423286	19DEC88	32870.66	ACC024	602	M	31OCT64
456910	14JUN78	45000.58	CSR010	602	M	24SEP53
456921	19AUG87	33210.04	SHP002	602	M	12MAY62
457232	15JUL85	55000.66	ACC013	602	M	15OCT63
459287	02NOV64	50000.00	SHP024	204	M	05JAN34
677890	12DEC88	37610.00	CSR010	204	F	24APR65

LASTNAME	FIRSTNAM	MIDDLENA	PHONE
WOLF-PROVENZA	G.	ANDREA	3467
HAMMERSTEIN	S.	RACHAEL	3287
VARGAS	PAUL	JESUS	
MEDER	VLADIMIR	JORAN	6231
CHOULAI	CLARA	JANE	3921
HEMESLY	STEPHANIE	J.	6329
WACHBERGER	MARIE-LOUISE	TERESA	8562
PURINTON	PRUDENCE	VALENTINE	3852
SMITH	GILBERT	IRVINE	7274
BATTERSBY	R.	STEPHEN	8342
DOS REMEDIOS	LEONARD	WESLEY	4892
TAYLOR-HUNYADI	ITO	MISHIMA	0231
GONZALES	GUILLERMO	RICARDO	3642
MEDINA-SIDONIA	MARGARET	ROSE	5901
SHIEKELESLAM	SHALA	Y.	8745
DUNNETT	CHRISTINE	MARIE	4213
MIFUNE	YUKIO	TOSHIRO	3278
ARDIS	RICHARD	BINGHAM	4351
KRAUSE	KARL-HEINZ	G.	7452
LOVELL	WILLIAM	SINCLAIR	6321
RODRIGUES	JUAN	M.	5879
NISHIMATSU-LYNCH	CAROL	ANNE	6245

INVOICE ADABAS File

The INVOICE ADABAS file was created with the following ADABAS data definition statements:

```
//STEP01.DDCARD DD *
ADARUN PROGRAM=ADACMP
ADARUN DATABASE=001
ADARUN DEVICE=3380
ADARUN MODE=MULTI
ADARUN SVC=253
//STEP01.DDKARTE  DD  *
ADACMP COMPRESS
ADACMP FILE=47
ADACMP NUMREC=0
ADACMP FNDEF='01,IV,005,U,DE'
ADACMP FNDEF='01,BT,008,A'
ADACMP FNDEF='01,AM,014,U,DE'
ADACMP FNDEF='01,CY,020,A,DE'
ADACMP FNDEF='01,AU,010,U'
ADACMP FNDEF='01,BB,006,U,DE'
ADACMP FNDEF='01,BO,006,U'
ADACMP FNDEF='01,PO,006,U,DE'
ADACMP FNDEF='01,CX,008,G'
//STEP02.DDCARD   DD  *
ADARUN PROGRAM=ADALOD
ADARUN DATABASE=001
ADARUN DEVICE=3380
ADARUN MODE=MULTI
ADARUN SVC=253
//STEP02.DDKARTE  DD  *
ADALOD LOAD FILE=47
ADALOD      DSSIZE=5B
ADALOD      NAME=INVOICE
ADALOD      MAXISN=100
ADALOD      DSDEV=3380
ADALOD      TEMPDEV=3380
ADALOD      SORTSIZE=5
ADALOD      TEMPSIZE=5
```

The DATA step is as follows:

```
data invoice;
    /* invoice number           */
    input  @1  invoicen 5.
           /* company that placed the order */
           @7  billedto $8.

           /* amount of bill in local currency */
           @15 amtbille 15.2
           @30 country  $20.
           /* amount of bill in U.S. dollars */
           @50 amountin 11.2 /
```

```
        /* employee who wrote the bill */
        @1  billedby 6.

        /* date that bill was sent  */
        @10 billedon yymmdd6.

        /* date that bill was paid  */
        @20 paidon   yymmdd6.

        /* time of day that the     */
        /* exchange rate to U.S.    */
        /* dollars was computed     */
        @30 computed time8. ;
format billedon date7.;
format paidon date7.;
datalines;
```

The data are shown in Output A3.6 on page 149.

Output A3.6 Data for INVOICE ADABAS File

```
INVOICEN    BILLEDTO        AMTBILLE    COUNTRY       AMOUNTIN

    11270     39045213    1340738760.9    Brazil        2256870.0
    11271     18543489      11063836.0    USA          11063836.0
    11273     19783482        252148.5    USA            252148.5
    11276     14324742       1934460.0    USA           1934460.0
    11278     14898029       1400825.0    USA           1400825.0
    11280     39045213    1340738760.9    Brazil        2256870.0
    11282     19783482        252148.5    USA            252148.5
    11285     38763919      34891210.2    Argentina     2256870.0
    11286     43459747      12679156.0    Australia    11063836.0
    11287     15432147        252148.5    USA            252148.5
    12051     39045213    1340738760.9    Brazil        2256870.0
    12102     18543489      11063836.0    USA          11063836.0
    12263     19783482        252148.5    USA            252148.5
    12468     14898029       1400825.0    USA           1400825.0
    12471     39045213    1340738760.9    Brazil        2256870.0
    12476     38763919      34891210.2    Argentina     2256870.0
    12478     15432147        252148.5    USA            252148.5

  BILLEDBY    BILLEDON     PAIDON    COMPUTED

    239185     05OCT88     18OCT88       39646
    457232     05OCT88     11OCT88           .
    239185     06OCT88     11NOV88           .
    135673     06OCT88     20OCT88           .
    239185     06OCT88     19OCT88           .
    423286     07OCT88     20OCT88       58154
    457232     07OCT88     25OCT88           .
    239185     10OCT88     30NOV88       55163
    423286     10OCT88           .       33827
    457232     11OCT88     04NOV88           .
    457232     02NOV88           .       31185
    239185     17NOV88           .           .
    423286     05DEC88           .           .
    135673     24DEC88     02JAN89           .
    457232     27DEC88           .       50945
    135673     24DEC88           .       39563
    423286     24DEC88     02JAN89           .
```

ORDER ADABAS File

The ORDER ADABAS file was created with the following ADABAS data definition statements:

```
//STEP01.DDCARD DD *
ADARUN PROGRAM=ADACMP
ADARUN DATABASE=001
ADARUN DEVICE=3380
ADARUN MODE=MULTI
ADARUN SVC=253
//STEP01.DDKARTE  DD  *
ADACMP COMPRESS
ADACMP FILE=48
```

```
ADACMP NUMREC=0
ADACMP FNDEF='01,ON,005,U,DE'
ADACMP FNDEF='01,SN,004,U'
ADACMP FNDEF='01,LN,004,U'
ADACMP FNDEF='01,FC,010,U'
ADACMP FNDEF='01,ST,008,A,DE'
ADACMP FNDEF='01,DO,006,U'
ADACMP FNDEF='01,DS,006,U'
ADACMP FNDEF='01,TB,006,U'
ADACMP FNDEF='01,PB,006,U'
ADACMP FNDEF='01,SF,001,A'
//STEP02.DDCARD   DD  *
ADARUN PROGRAM=ADALOD
ADARUN DATABASE=001
ADARUN DEVICE=3380
ADARUN MODE=MULTI
ADARUN SVC=253
//STEP02.DDKARTE  DD  *
ADALOD LOAD FILE=48
ADALOD      DSSIZE=5B
ADALOD      NAME=ORDER
ADALOD      MAXISN=100
ADALOD      DSDEV=3380
ADALOD      TEMPDEV=3380
ADALOD      SORTSIZE=5
ADALOD      TEMPSIZE=5
```

The DATA step is as follows:

```
data orders;
    /* order number                */
    input @1  ordernum 5.
          /* stock number                */
          @6  stocknum 4.

          /* length of material ordered   */
          @10 length   4.

          /* fabric charges              */
          @15 fabricch 11.2

          /* customer whom order is to be */
          /* shipped to                  */
          @27 shipto   $8.


          /* date of order               */
          @35 dateorde yymmdd6.
          /* date that order was shipped  */
          @45 shipped  yymmdd6.

          /* employee who took the order  */
          @55 takenby  6.
```

```
      /* employee who processed the order  */
      @62 processe 6.

      /* this flag signals that       */
      /* special instructions are     */
      /* associated with this order.  */
      @69 speciali $1. ;
format dateorde date7.;
format shipped date7.;
datalines;
```

The data are shown in Output A3.7 on page 152.

Output A3.7 Data for INVOICE ADABAS File

```
  O     S           F                 D                   P   S
  R     T           A                 A       S    T      R   P
  D     O    L      B        S        T       H    A      O   E
  E     C    E      R        H        E       I    K      C   C
  R     K    N      I        I        O       P    E      E   I
  N     N    G      C        P        R       P    N      S   A
  U     U    T      C        T        D       E    B      S   L
  M     M    H      H        O        E       D    Y      E   I

11269 9870  690         .  19876078 03OCT88       . 212916      .
11270 1279 1750  2256870.0 39045213 03OCT88 19OCT88 321783 237642 X
11271 8934  110 11063836.0 18543489 03OCT88 13OCT88 456910 456921
11272 3478 1000         .  29834248 03OCT88       . 234967      .
11273 2567  450   252148.5 19783482 04OCT88 14NOV88 119012 216382
11274 4789 1000         .  15432147 04OCT88       . 212916      .
11275 3478 1000         .  29834248 04OCT88       . 234967      .
11276 1279 1500  1934460.0 14324742 04OCT88 21OCT88 321783 120591 X
11277 8934  100 10058033.0 31548901 05OCT88       . 456910      .
11278 2567 2500  1400825.0 14898029 05OCT88 20OCT88 119012 456921
11279 9870  650         .  48345514 05OCT88       . 212916      .
11280 1279 1750  2256870.0 39045213 06OCT88 21OCT88 321783 237642 X
11281 8934  110 11063836.0 18543489 06OCT88 27OCT88 456910 216382
11282 2567  450   252148.5 19783482 06OCT88 26OCT88 119012 456921
11283 9870  690         .  18543489 07OCT88       . 212916      .
11284 3478 1000         .  24589689 07OCT88       . 234967      .
11285 1279 1750  2256870.0 38763919 07OCT88 02DEC88 321783 120591 X
11286 8934  110 11063836.0 43459747 07OCT88 03NOV88 456910 237642
11287 2567  450   252148.5 15432147 07OCT88 07NOV88 119012 216382
11288 9870  690         .  14324742 10OCT88       . 212916      . Y
11969 9870  690         .  19876078 25OCT88       . 212916      .
12051 1279 1750  2256870.0 39045213 31OCT88       . 321783      . X
12102 8934  110 11063836.0 18543489 15NOV88       . 456910      .
12160 3478 1000         .  29834248 19NOV88       . 234967      . Z
12263 2567  450   252148.5 19783482 01DEC88       . 119012      .
12464 4789 1000         .  15432147 23DEC88       . 212916      .
12465 3478 1000         .  29834248 23DEC88       . 234967      .
12466 1279 1500  1934460.0 14324742 23DEC88       . 321783      . X
12467 8934  100 10058033.0 31548901 23DEC88       . 456910      .
12468 2567 2500  1400825.0 14898029 23DEC88 03JAN89 119012 120591
12470 9870  650         .  48345514 23DEC88       . 212916      .
12471 1279 1750  2256870.0 39045213 23DEC88       . 321783      . X
12472 8934  110 11063836.0 18543489 23DEC88 03JAN89 456910 237642
12473 2567  450   252148.5 19783482 23DEC88       . 119012      .
12474 9870  690         .  18543489 23DEC88       . 212916      .
12475 3478 1000         .  24589689 23DEC88       . 234967      .
12476 1279 1750  2256870.0 38763919 23DEC88 03JAN89 321783 456921 X
12477 8934  110 11063836.0 43459747 23DEC88       . 456910      .
12478 2567  450   252148.5 15432147 23DEC88 03JAN89 119012 216382
12479 9870  690         .  14324742 23DEC88       . 212916      .
```

NATURAL DDMs Based on the ADABAS Files

This section shows descriptions of the NATURAL DDMs created for the preceding ADABAS files. The DDMS are presented in alphabetical order.

CUSTOMERS DDM

The CUSTOMERS DDM contains the description in Output A3.8 on page 153.

Output A3.8 CUSTOMERS DDM

```
VIEW   : CUSTOMERS                          DEF.SEQ:   DBID:1   FNR:  45
COMMAND:
I T L DB NAME                          F LENG  S D       REMARK
- - - -- -----------bottom------------ - ----  - - ------------------
    1 CU CUSTOMER                      A 8.0     D
  G 1 SZ STATEZIP
    2 ST STATE                         A 2.0     D
    2 ZI ZIPCODE                       N 5.0
    1 CY COUNTRY                       A 20.0    D
    1 PH TELEPHONE                     A 12.0
    1 NA NAME                          A 60.0
    1 CN CONTACT                       A 30.0
    1 AD STREETADDRESS                 A 40.0
    1 CI CITY                          A 25.0
    1 FO FIRSTORDERDATE                N 6.0
  P 1 SL SIGNATURE-LIST
    2 LI LIMIT                         N 14.2
    2 SI SIGNATURE                     A 30.0
  M 1 BR BRANCH-OFFICE                 A 25.0
    1 SP STATE-ZIPLAST2                A 4.0
    1 SB ZIPLAST2                      N 2.0
```

EMPLOYEE DDM

The EMPLOYEE DDM contains the description shown in Output A3.9 on page 154.

Output A3.9 EMPLOYEE DDM

```
VIEW   : EMPLOYEE                          DEF.SEQ:   DBID:1   FNR:  46
COMMAND:
I T L DB NAME                          F LENG  S D       REMARK
- - - -- ------------all--------------- - ----  - - ------------------
    1 ID EMPID                         N 6.0     D
    1 HD HIREDATE                      N 6.0
    1 SA SALARY                        N 7.2
    1 DP DEPT                          A 6.0
    1 JC JOBCODE                       N 5.0     D
    1 SX SEX                           A 1.0
    1 BD BIRTHDATE                     N 6.0
    1 LN LASTNAME                      A 18.0    D
    1 FN FIRSTNAME                     A 15.0
    1 MN MIDDLENAME                    A 15.0
    1 PH PHONE                         A 4.0
```

INVOICE DDM

The INVOICE DDM contains the description shown in Output A3.10 on page 154.

Output A3.10 INVOICE DDM

```
VIEW   : INVOICE                           DEF.SEQ:   DBID:1   FNR:  47
COMMAND:
I T L DB NAME                          F LENG  S D       REMARK
- - - -- ------------all--------------- - ----  - - ------------------
    1 IB INVOICENUM                    N 5.0     D
    1 BT BILLEDTO                      A 8.0
    1 AM AMTBILLED                     N 14.2    D
    1 CY COUNTRY                       A 20.0    D
    1 AU AMOUNTINUS                    N 10.2
    1 BB BILLEDBY                      N 6.0     D
    1 BO BILLEDON                      N 6.0
    1 PO PAIDON                        N 6.0     D
    1 CX COMPUTEREXCHANGE              F 8.0   F
```

ORDER DDM

The ORDER DDM contains the description shown in Output A3.11 on page 155.

Output A3.11 ORDER DDM

```
VIEW   : ORDER                                DEF.SEQ:   DBID:1   FNR:  48
COMMAND:
I T L DB NAME                          F LENG  S D       REMARK
- - - -- ------------all-------------- - ----  - - ------------------
    1 ON ORDERNUM                      N 5.0     D
    1 SN STOCKNUM                      N 4.0
    1 LN LENGTH                        N 4.0
    1 FC FABRICCHARGES                 N 10.2
    1 ST SHIPTO                        A 8.0     D
    1 DO DATEORDERED                   N 6.0
    1 DS SHIPPED                       N 6.0
    1 TB TAKENBY                       N 6.0
    1 PB PROCESSEDBY                   N 6.0
    1 SF SPECIALINSTRUCTION            A 1.0
```

Access Descriptors

An ADABAS access descriptor can be based on an ADABAS file or on a NATURAL DDM.

Access Descriptors Based on ADABAS Files

This section shows an access descriptor definition that is based on an ADABAS file and the same access descriptor definition based on the CUSTOMER NATURAL DDM.

ADLIB.CUSTOMER Access Descriptor

The ADLIB.CUSTOMER access descriptor was created as follows:

```
proc access dbms=adabas;
   create adlib.customer.access;
   adbfile(number=15 password=cuspw
           cipher=cuscc dbid=1);
   sysfile(number=15 password=cuspwsys
           cipher=cusccsys dbid=1);
   secfile(number=16 password=cuspwsec
           cipher=cusccsec dbid=1);
```

```
   assign=yes;
   rename cu = custnum
          ph = phone
          ad = street;
   format fo = date7.;
   informat fo = date7.;
   content fo = yymmdd6.;
   mvf br occurs = 4
run;
```

By specifying an ADABAS file number instead of a DDM, the definition bypasses NATURAL SECURITY. The following is an example of the same access descriptor written to use NATURAL SECURITY:

```
proc access dbms=adabas;
   create adlib.customer.access;
   nss(library=sasdemo user=demo password=demopw);
   adbfile(password=cuspw cipher=cusscc dbid=1);
   sysfile(number=15 password=cuspwsys
           cipher=cusccsys dbid=1);
   secfile(number=16 password=cuspwsec
           cipher=cusccsec dbid=1);
   ddm=customers;
   assign=yes;
   rename customer = custnum
          telephone = phone
          streetaddress = street;
   format firstorderdate = date7.;
   informat firstorderdate = date7.;
   content firstorderdate = yymmdd6.;
   mvf "BRANCH-OFFICE" occurs = 4
run;
```

Access Descriptors Based on the NATURAL DDMs

This section shows the access descriptors used in this book that are based on NATURAL DDMs. All of the view descriptors in this book were created from these access descriptors. The access descriptors are presented in alphabetical order.

MYLIB.CUSTS Access Descriptor

The MYLIB.CUSTS access descriptor was created as follows:

```
proc access dbms=adabas;
   create mylib.custs.access;
   nss(library=demo user=demo1 password=demo1);
   sysfile(number=15 dbid=1);
   secfile(number=16 dbid=1);
   ddm=customers;
   assign=yes;
   drop contact;
   rename customer = custnum
          telephone = phone
          streetaddress = street;
   format firstorderdate = date7.;
   informat firstorderdate = date7.;
```

```
   content firstorderdate = yymmdd6.;
   mvf "BRANCH-OFFICE" occurs = 4;
run;
```

MYLIB.EMPLOYEE Access Descriptor

The MYLIB.EMPLOYEE access descriptor was created as follows:

```
proc access dbms=adabas;
   create mylib.employee.access;
   nss(library=demo user=demo1 password=demo1);
   sysfile(number=15 dbid=1);
   secfile(number=16 dbid=1);
   ddm=employee;
   assign=yes;
   format hiredate = date7.;
   informat hiredate = date7.;
   content hiredate = yymmdd6.;
   format birthdate = date7.;
   informat birthdate = date7.;
   content birthdate = yymmdd6.;
run;
```

MYLIB.INVOICE Access Descriptor

The MYLIB.INVOICE access descriptor was created as follows:

```
proc access dbms=adabas;
   create mylib.invoice.access;
   nss(library=demo user=demo1 password=demo1);
   sysfile(number=15 dbid=1);
   secfile(number=16 dbid=1);
   ddm=invoice;
   assign=yes;
   format billedon = date7.;
   informat billedon = date7.;
   content billedon = yymmdd6.;
   format paidon = date7.;
   informat paidon = date7.;
   content paidon = yymmdd6.;
run;
```

MYLIB.ORDER

The MYLIB.ORDER access descriptor was created as follows:

```
proc access dbms=adabas;
   create mylib.order.access;
   nss(library=demo user=demo1 password=demo1);
   sysfile(number=15 dbid=1);
   secfile(number=16 dbid=1);
   ddm=order;
   assign=yes;
   format dateordered = date7.;
   informat dateordered = date7.;
   content dateordered = yymmdd6.;
```

```
   format shipped = date7.;
   informat shipped = date7.;
   content shipped = yymmdd6.;
run;
```

View Descriptors Based on the Access Descriptors

This section shows the view descriptors used in this book to access ADABAS data. The view descriptors are presented in alphabetical order.

VLIB.ADAEMPS View Descriptor

The VLIB.ADAEMPS view descriptor was created as follows:

```
proc access dbms=adabas ad=mylib.employee;
   create vlib.adaemps.view;
   select empid birthdate;
   select lastname firstname middlename;
run;
```

VLIB.ALLEMP View Descriptor

The VLIB.ALLEMP view descriptor was created as follows:

```
proc access dbms=adabas ad=mylib.employee;
   create vlib.allemp.view;
   select all;
   reset isn;
run;
```

VLIB.ALLORDR View Descriptor

The VLIB.ALLORDR view descriptor was created as follows:

```
proc access dbms=adabas ad=mylib.order;
   create vlib.allordr.view;
   select all;
   reset isn;
run;
```

VLIB.CUSORDR View Descriptor

The VLIB.CUSORDR view descriptor was created as follows:

```
proc access dbms=adabas ad=mylib.order;
   create vlib.cusordr.view;
   select stocknum shipto;
run;
```

VLIB.CUSPHON View Descriptor

The VLIB.CUSPHON view descriptor was created as follows:

```
proc access dbms=adabas ad=mylib.custs;
   create vlib.cusphon.view;
   select customer telephone name;
run;
```

VLIB.EMPINFO View Descriptor

The VLIB.EMPINFO view descriptor was created as follows:

```
proc access dbms=adabas ad=mylib.employee;
   create vlib.empinfo.view;
   select empid dept lastname;
run;
```

VLIB.EMPS View Descriptor

The VLIB.EMPS view descriptor was created as follows. This descriptor includes sort and WHERE statements to specify selection criteria.

```
proc access dbms=adabas ad=mylib.employee;
   create vlib.emps.view;
   select empid jobcode birthdate lastname;
   subset where jobcode = 602;
   subset sort lastname;
run;
```

VLIB.FORINV View Descriptor

The VLIB.FORINV view descriptor was created as follows. This descriptor includes a WHERE statement to specify selection criteria.

```
proc access dbms=adabas ad=mylib.invoice;
   create vlib.forinv.view;
   select all;
   reset isn computedexchange;
   subset where country != 'USA';
run;
```

VLIB.INV View Descriptor

The VLIB.INV view descriptor was created as follows. This descriptor includes a sort statement to specify selection criteria.

```
proc access dbms=adabas ad=mylib.invoice;
   create vlib.inv.view;
   select invoicenum amtbilled country
      billedby paidon;
   subset sort billedby;
run;
```

VLIB.USACUST View Descriptor

The VLIB.USACUST view descriptor was created as follows. This descriptor includes SORT and WHERE statements to specify selection criteria.

```
proc access dbms=adabas ad=mylib.custs;
   create vlib.usacust.view;
   select all;
   reset isn telephone streetaddress
     city "STATE-ZIPLAST2" ziplast2;
   mvf "BRANCH-OFFICE" reset br_any
     branch_1 branch_3 branch_4;
   subset where country = 'USA';
   subset sort customer;
run;
```

VLIB.USAINV View Descriptor

The VLIB.USAINV view descriptor was created as follows. This descriptor includes a WHERE statement to specify selection criteria.

```
proc access dbms=adabas ad=mylib.invoice;
   create vlib.usainv.view;
   select all;
   reset isn computedexchange;
   subset where country = 'USA';
run;
```

VLIB.USAORDR View Descriptor

The VLIB.USAORDR view descriptor was created as follows. This view descriptor uses a SORT statement to specify selection criteria.

```
proc access dbms=adabas ad=mylib.order;
   create vlib.usaordr.view;
   select ordernum stocknum length
     fabriccharges shipto;
   subset sort shipto;
run;
```

SAS Data Files

This section describes the SAS data files used in this book. It provides the SAS statements that created each data file and shows the output with the PRINT procedure.

MYDATA.OUTOFSTK SAS Data File

The SAS data file MYDATA.OUTOFSTK is used in Chapter 3, "Using ADABAS Data in SAS Programs," on page 17. It was created with the following SAS statements:

```
libname mydata 'your-SAS-library';
data mydata.outofstk;
```

```
   input fibernam $8.  /* fiber name    */
         fibernum;     /* fiber number  */
   datalines;
olefin   3478
gold     8934
dacron   4789
;
run;
```

The following PRINT procedure lists the data shown in Output 3.11 on page 30.

```
proc print data=mydata.outofstk;
   title 'SAS Data File MYDATA.OUTOFSTK';
run;
```

MYDATA.SASEMPS SAS Data File

The SAS data file MYDATA.SASEMPS is used in Chapter 4, "Browsing and Updating ADABAS Data," on page 39. It was created with the following SAS statements:

```
libname mydata 'your-SAS-library';
data mydata.sasemps;
/* employee identification    */
   input empid
         /* birth date        */
         birthdat date7.
         /* last name         */
         lastname $18.
         /* first name        */
         firstnam $15.
         /* middle name       */
         middlena $15.;
   datalines;
245962 30AUG64 BEDORTHA      KATHY         MARTHA
765432 01MAR59 POWELL        FRANK         X.
219223 13JUN47 HANSINGER     BENJAMIN      HAROLD
326745 21FEB52 RAWN          BEATRICE      MAY
;
run;
```

The following PRINT procedure lists the data shown in Output 4.11 on page 53:

```
proc print data=mydata.sasemps;
   title 'Data in MYDATA.SASEMPS Data File';
   format birthdat date7.;
run;
```

LIB6.BIRTHDAY Data File

The SAS data file LIB6.BIRTHDAY is used in Chapter 3, "Using ADABAS Data in SAS Programs," on page 17. It was created with the following SAS statements:

```
libname lib6 'your-SAS-library';
data lib6.birthday;
   /* employee identification */
   input empid
         /* birth date              */
         birthdat date7.
         /* last name               */
         lastname $18.;
   datalines;
129540 31JUL60 CHOULAI
356134 25OCT60 DUNNETT
127845 25DEC43 MEDER
677890 24APR65 NISHIMATSU-LYNCH
459287 05JAN34 RODRIGUES
346917 15MAR50 SHIEKELESLAN
254896 06APR49 TAYLOR-HUNYADI
;
run;
```

The following PRINT procedure lists the data shown in Output 3.15 on page 35:

```
proc print data=lib6.birthday;
   title 'LIB6.BIRTHDAY Data File';
   format birthdat date7.;
run;
```

Glossary

access descriptor
a SAS/ACCESS file that describes to the SAS System a single ADABAS file or NATURAL DDM. It is used as a master for creating view descriptors. See also view descriptor.

Associator
an ADABAS system file containing internal control information for an entire database. The Associator system file also contains the Space Allocation Table, the Address Converter, the Field Definition Table, and inverted lists for the database.

batch mode
a method of executing SAS programs in which you prepare a file containing SAS statements and any necessary operating system commands and submit the program to the computer's batch queue. While the program executes, control of the SAS System returns to the user. Batch mode is sometimes referred to as running in background. The job output can be written to files or printed on an output device.

browsing data
the process of viewing a file. You may see the data one observation at a time or in a tabular format. You cannot update data that you are browsing.

ciphered data
a form for storing Data Storage records that provides an additional level of protection against unauthorized use of ADABAS data. Also known as encrypted data.

compressed data
ADABAS data from which blanks in alphanumeric fields and leading zeros in numeric fields have been removed. (The SAS System also has a compression option for SAS data files.)

data field
the smallest logical unit of information that you can define and reference in an ADABAS file. The data field types for ADABAS include elementary, multiple-value, group, periodic group, subfield, and superfield.

Data Storage
an ADABAS file containing the compressed data records for all ADABAS files. A single Data Storage physical block contains a variable number of logical records.

data value
a character or numeric value that is stored in one variable in an observation, that is, the intersection of a variable (vertical component) and an observation (horizontal

component). It refers to the actual data in a SAS data file, such as the value Smith for the variable LASTNAME.

database
an organized collection of related data. In ADABAS, a database consists of ADABAS files numbered 1 to 255. These files are contained in the Associator system file and the Data Storage file.

database management system (DBMS)
an integrated software package that enables you to create and manipulate data in the form of databases.

descriptor (ADABAS)
an ADABAS data field defined as a key data field. The values for a descriptor data field are stored and maintained in an inverted list (an index). The descriptor types include subdescriptor, superdescriptor, and phonetic descriptor. There is also a hyperdescriptor, but the ADABAS interface view engine does not support it.

descriptor files
the SAS/ACCESS files used to establish a connection between the SAS System and ADABAS. To create descriptor files, you use the ACCESS procedure. There are two types of descriptor files: access descriptors and view descriptors.

editing data
the process of viewing a file with the intent (and ability) to change it. You can see the data one observation at a time or in a tabular format.

elementary field
an ADABAS data field that can contain only one value within a given record.

engine
the components of the SAS System that read from or write to a file. Each engine allows the SAS System to access files with a particular format. See also interface view engine.

exclusive file control
the control of one or more files by a single user, which prevents other users from updating the file during a session.

field
See data field.

file
a collection of related records treated as a unit. SAS files are processed and controlled through the SAS System and are stored in a SAS data library.

An ADABAS file can contain from 0 to 16,777,215 records. The records are physically stored in compressed form in Data Storage. File control information, field definitions, and inverted list entries are contained in the Associator.

format, variable
a pattern the SAS System uses to display each character or numeric data value in a variable.

full-screen procedure
a procedure that uses windows and menus to accomplish a SAS System task. For example, FSVIEW is a full-screen procedure.

group
an ADABAS data field that combines a series of consecutive data fields for access efficiency and ease of reference.

index
a SAS System file associated with a SAS data file that enables you to access observations by index value. Indexing usually makes data set processing faster, although the SAS System determines the most efficient way to process data maintained by the SAS System.

In ADABAS, an index of values for descriptor data fields is referred to as an inverted list. See inverted list.

informat, variable
the pattern that the SAS System uses to read data values into a variable. Informats are normally used when you want to update data.

interactive line mode
an execution mode in which program statements are entered on the terminal at the SAS session prompt. Procedure output and informative messages are returned directly to your terminal display.

interface view engine
an engine that retrieves data directly from files formatted by other software vendors. The SAS/ACCESS interface to ADABAS includes an interface view engine.

inverted list
a list of the different values of an ADABAS descriptor, together with the count and the ISNs of the records that contain each value.

ISN (Internal Sequence Number)
a number assigned to each logical record in an ADABAS file. ISNs are unique within each ADABAS file and can be assigned either by ADABAS or by the user (the default).

key field
See descriptor (ADABAS).

libref
a temporary name that points to a SAS data library. A SAS file's complete name consists of two words, separated by a period. The libref is the first word and indicates the library; the second word is the specific SAS file in the library. For example, in VLIB.NEWBDAY, VLIB is the libref and tells the SAS System where to look to find the file NEWBDAY.

member
a SAS file in a SAS data library.

member name
a name given to a SAS file in a SAS data library.

member type
a SAS name that identifies what type of information is stored in the file. Member types include access, data, catalog, program, and view.

missing value
a value in the SAS System indicating that no data are stored for the variable in the current observation. By default, the SAS System represents a missing numeric value with a single period and a missing character value by a blank space.

multiple-value field
an ADABAS data field that can have more than one value within a given record. The number of occurrences can be from 0 to 191.

null value
a value for an ADABAS data field that is missing.

observation
the horizontal component of a SAS data file. It is a collection of data values associated with a single entity, such as a customer or state. Each observation contains one data value for each variable in the data file.

occurrences
the number of values in a single record for an ADABAS multiple-value field or the number of times a periodic group is repeated in a given record.

periodic group
a collection of ADABAS data fields that can occur repeatedly within a given record. The number of occurrences in a periodic group can be from 0 to 99.

phonetic descriptor
an ADABAS descriptor defined to perform a search according to a phonetic value, for example, retrieval by family name.

SAS data file
one of the formats of a SAS data set that contains both data values and descriptor information associated with the data, such as the variable attributes. Before Version 6 of the SAS System, all SAS data sets were SAS data files. SAS data files are of the member type DATA.

A SAS data file is arranged in a rectangular, two-dimensional format. Each item in a SAS data file is called a data value. Data values in a row make up an observation and those in a column make up a variable.

SAS data library
a collection of SAS data sets and other SAS files that are stored and referenced as a unit.

SAS data set
a collection of information stored as a unit under the SAS System. Several SAS data sets can be stored in a SAS data library. Unlike external files, a SAS data set is processed and controlled only through the SAS System.

For information about SAS data sets, see also SAS data file and SAS data view.

SAS data view
one of the formats of a SAS data set that contains only the descriptor and other information required to retrieve the data values from other SAS files or external files. Both PROC SQL views and SAS/ACCESS views are considered SAS data views. SAS data views are of the member type VIEW.

subdescriptor
an ADABAS descriptor created from a portion of an elementary data field.

subfield
a portion of an ADABAS data field that can be defined for read purposes only.

superdescriptor
an ADABAS descriptor created from several fields, portions of fields, or combinations thereof.

superfield
a combination of ADABAS fields, portions of fields, or both, which can be defined for read purposes only.

system files
the ADABAS files used to store Data Definition Modules (DDMs) and NATURAL SECURITY information. They are created and maintained by ADABAS and should not be directly updated.

variable
a column in a SAS data file. Each SAS variable can have the following attributes: name, type (character or numeric), length, format, informat, and label. In the ACCESS procedure, variables are created from ADABAS data fields.

variable length field
an ADABAS data field that does not have a standard length. A variable length field can have a length up to the maximum for its format.

view
a definition of a virtual data set that is named and stored for later use. This file contains no data, but it describes or defines data stored elsewhere. SAS data views can be created by the ACCESS and SQL procedures. See also SAS data view.

For example, when a SAS/ACCESS view – a view descriptor – is referenced in the SAS PRINT procedure, the view reads data directly from an ADABAS file. You can also reference this view in certain SAS procedures to update the database described by a SAS/ACCESS view.

A view defined by the SQL procedure reads data from its underlying SAS data files, other PROC SQL views, or SAS/ACCESS views. Its output table can be a subset or a superset of one or multiple underlying structures.

view descriptor
a SAS/ACCESS file that defines a subset of a database described by an access descriptor. The subset consists of selected data fields from an ADABAS file with optional selection and ordering criteria. See also access descriptor.

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