NOTE: Copyright (c) 1999-2001 by SAS Institute Inc., Cary, NC, USA.
NOTE: SAS (r) Proprietary Software Release 8.2 (TS2M0)
      Licensed to AGENCY FOR HEALTHCARE RESEARCH & QUALITY, Site 0040776001.
NOTE: This session is executing on the WIN_PRO  platform.


```
1          options ls=120 ps=79 nodate;
2          ods noproctitle;
3
4          /********************************************************************************\
5          Program:      c:\meps\prog\Example_L1.sas
6
7          Description:  This example shows how to:
8                        (1) Identify jobs in first part of 2001
9                        (2) Count the numbers of each type of job for each person
10                       (3) Merge JOBS and FY files
11                       (4) Use SUDAAN to calculate standard errors
12                       (5) Use SAS to calculate relative standard errors from SUDAAN output
13
14         Input Files:  c:\meps\data\h56.sas7bdat (2001 Jobs)
15                       c:\meps\data\h60.sas7bdat (2001 Full-Year Persons)
16         \********************************************************************************/
17
18         libname hc 'c:\meps\data';
```
NOTE: Libref HC was successfully assigned as follows:
      Engine:        V8
      Physical Name: c:\meps\data
```
19
20         title 'AHRQ MEPS DATA USERS WORKSHOP (LINKING) -- NOV/DEC 2004';
21         title2 '2001 JOBS';
22         title3 'Types and Numbers of Jobs at Beginning of Year';
23
24         proc format;
25           value subtype
26             1='1 Current Main'
27             2='2 Current Miscellaneous'
28             3='3 Former Main'
29             4='4 Former Miscellaneous'
30             5='5 Last Job Outside Rn'
31             6='6 Retirement';
```
NOTE: Format SUBTYPE has been output.
```
32           value age  -1='-1'  0-15='0-15'  16-17='16-17'  18-high='18+';
```
NOTE: Format AGE has been output.
```
33           value pos  0<-high='>0';
```
NOTE: Format POS has been output.
```
34         run;
35
36                 /* Subset JOBS file to first-round  records */
37         data;  set hc.h56;   by dupersid;
38           if (panel=5 & rn=3) | (panel=6 & rn=1);
39         run;
```

NOTE: There were 61265 observations read from the data set HC.H56.
NOTE: The data set WORK.DATA1 has 22662 observations and 83 variables.


```
40
41         title4 'All Jobs at Beginning of Year';
```

```
42          proc freq;   tables subtype;   format subtype subtype.;   run;


NOTE: There were 22662 observations read from the data set WORK.DATA1.
NOTE: The PROCEDURE FREQ printed page 1.


43
44                  /* Get person-level counts of each type of job from first-round JOBS records */
45          data jobsper;  set _last_;   by dupersid;
46            if first.dupersid then do;                         /* initialize count variables */
47              n1=0;   n2=0;   n3=0;   n4=0;   n5=0;   n6=0;   totjobs=0;
48            end;
49            if subtype=1 then n1+1;
50              else if subtype=2 then n2+1;
51              else if subtype=3 then n3+1;
52              else if subtype=4 then n4+1;
53              else if subtype=5 then n5+1;
54              else if subtype=6 then n6+1;
```

```
55          totjobs+1;
56          if last.dupersid;
57          keep dupersid totjobs n1-n6;
58          label
59            totjobs='Total # Jobs in Rn 1/3'
60            n1     ='# Current Main Jobs in Rn 1/3'
61            n2     ='# Current Miscellaneous Jobs in Rn 1/3'
62            n3     ='# Former Main Jobs in Rn 1/3'
63            n4     ='# Former Miscellaneous Jobs in Rn 1/3'
64            n5     ='# Last Jobs Outside Rn 1/3'
65            n6     ='# Retirement Jobs in Rn 1/3';
66        run;
```

NOTE: There were 22662 observations read from the data set WORK.DATA1.
NOTE: The data set WORK.JOBSPER has 19634 observations and 8 variables.

```
67
68        title4 'Persons w/ a First-Round JOBS Record';
69        proc freq;   tables
70          totjobs n1-n6
71          totjobs*n1*n2*n3*n4*n5*n6/list missing;
72        run;
```

NOTE: There were 19634 observations read from the data set WORK.JOBSPER.
NOTE: The PROCEDURE FREQ printed pages 2-3.

```
73
74                 /* Combine new person-level file w/ full-year PUF */
75        data allper;   merge
76          hc.h60(keep=dupersid panel01 age31x perwt01f varstr01 varpsu01)
77          jobsper;   by dupersid;
78        run;
```

NOTE: There were 33556 observations read from the data set HC.H60.
NOTE: There were 19634 observations read from the data set WORK.JOBSPER.
NOTE: The data set WORK.ALLPER has 33556 observations and 13 variables.

```
79
80        title3 'Persons Age 18+: # of Current Main & Miscellaneous Jobs at Beginning of Year';
81        data curr;   set allper;
82               /* Get count of current main or miscellaneous jobs in Rn 1/3 */
83               /*   & collapse into categories                              */
84               /* New var must begin w/ 1 for SUDAAN                        */
85          numcurr=n1+n2;
86          ncurr=numcurr+1;
87          if ncurr>3 then ncurr=4;
88        run;
```

NOTE: Missing values were generated as a result of performing an operation on missing values.
      Each place is given by: (Number of times) at (Line):(Column).
      13922 at 85:13   13922 at 86:16
NOTE: There were 33556 observations read from the data set WORK.ALLPER.
NOTE: The data set WORK.CURR has 33556 observations and 15 variables.

```
89
90              /* Sort by the Stratum & PSU variables for SUDAAN */
91       proc sort;    by varstr01 varpsu01;    run;

NOTE: There were 33556 observations read from the data set WORK.CURR.
NOTE: The data set WORK.CURR has 33556 observations and 15 variables.

92
93       proc crosstab data=curr filetype=sas design=wr noprint;
94         subpopn  age31x >= 18;
95         nest varstr01 varpsu01;
96         weight  perwt01f;
97         subgroup  ncurr;
98         levels  4;
99         tables  ncurr;
100        output  nsum wsum sewgt colper secol / filename=x;
101      run;
```

**********************************************************************




WARNING:
Your annual SUDAAN license has expired.  SUDAAN will no longer execute after January 31, 2005.  Please contact the
SUDAAN representative at your site to have your license renewed.  You may also call the SUDAAN Product Coordinator at
919-541-6602 or send e-mail toSUDAAN@RTI.ORG for further assistance.


Opened SAS data file CURR for reading.
Opened SAS data file X for writing.
Note:
 25 records written to file X


NOTE: There were 33556 observations read from the data set WORK.CURR.
NOTE: The data set WORK.X has 5 observations and 8 variables.
NOTE: The PROCEDURE CROSSTAB printed page 4.

```
102
103                 /* Calculate relative standard errors (RSE) */
104        data y;    set x;
105           if wsum > 0 then rsewgt = sewgt / wsum;        /* only if denominator > 0 */
106           if colper > 0 then rsecol = secol / colper;
107           if rsewgt > .3 or rsecol > .3 then flag = '*';
108        run;
```

NOTE: There were 5 observations read from the data set WORK.X.
NOTE: The data set WORK.Y has 5 observations and 11 variables.

```
109
110        proc format;
110     !                 value ncurr
111          0='TOTAL'
112          1='None'
113          2=' 1'
114          3=' 2'
115          4=' 3+';
```
NOTE: Format NCURR has been output.
```
116        run;


117        proc print l split='*';   id ncurr;
118           var  nsum wsum sewgt rsewgt colper secol rsecol flag;
119           format  ncurr ncurr. nsum comma6.  wsum comma11.  sewgt comma9.  rsewgt rsecol 5.3
120             colper 6.2  secol 4.2;
121           label
122             ncurr ='# Curr*Jobs'
123             nsum  ='Sample'
124             wsum  ='Population'
125             sewgt ='SE*Pop'
```

```
126              rsewgt='RSE*Pop'
127              colper='Column*%'
128              secol ='SE*Col %'
129              rsecol='RSE*Col %';
130         run;

NOTE: There were 5 observations read from the data set WORK.Y.
NOTE: The PROCEDURE PRINT printed page 5.

NOTE: SAS Institute Inc., SAS Campus Drive, Cary, NC USA 27513-2414
```

2001 JOBS
Types and Numbers of Jobs at Beginning of Year
All Jobs at Beginning of Year


JOB SUB-TYPE

|             SUBTYPE | Frequency | Percent | Cumulative Frequency | Cumulative Percent |
|---------------------|-----------|---------|----------------------|--------------------|
| 1 Current Main          | 15204 | 67.09 | 15204 | 67.09  |
| 2 Current Miscellaneous | 1429  | 6.31  | 16633 | 73.40  |
| 3 Former Main           | 1425  | 6.29  | 18058 | 79.68  |
| 4 Former Miscellaneous  | 210   | 0.93  | 18268 | 80.61  |
| 5 Last Job Outside Rn   | 3798  | 16.76 | 22066 | 97.37  |
| 6 Retirement            | 596   | 2.63  | 22662 | 100.00 |

```
                          2001 JOBS
             Types and Numbers of Jobs at Beginning of Year
                   Persons w/ a First-Round JOBS Record


                        Total # Jobs in Rn 1/3

                                        Cumulative    Cumulative
     totjobs    Frequency    Percent    Frequency      Percent
     ----------------------------------------------------------------
           1       16930      86.23        16930         86.23
           2        2415      12.30        19345         98.53
           3         257       1.31        19602         99.84
           4          30       0.15        19632         99.99
           5           1       0.01        19633         99.99
           6           1       0.01        19634        100.00



                    # Current Main Jobs in Rn 1/3

                                      Cumulative    Cumulative
     n1      Frequency    Percent     Frequency      Percent
     -------------------------------------------------------
      0         4430       22.56         4430         22.56
      1        15204       77.44        19634        100.00



                  # Current Miscellaneous Jobs in Rn 1/3

                                      Cumulative    Cumulative
     n2      Frequency    Percent     Frequency      Percent
     -------------------------------------------------------
      0        18305       93.23        18305         93.23
      1         1242        6.33        19547         99.56
      2           77        0.39        19624         99.95
      3            8        0.04        19632         99.99
      4            1        0.01        19633         99.99
      5            1        0.01        19634        100.00



                       # Former Main Jobs in Rn 1/3

                                      Cumulative    Cumulative
     n3      Frequency    Percent     Frequency      Percent
     -------------------------------------------------------
      0        18263       93.02        18263         93.02
      1         1317        6.71        19580         99.72
      2           54        0.28        19634        100.00



                  # Former Miscellaneous Jobs in Rn 1/3

                                      Cumulative    Cumulative
     n4      Frequency    Percent     Frequency      Percent
     -------------------------------------------------------
      0        19432       98.97        19432         98.97
```

```
       1             194           0.99           19626            99.96
       2               8           0.04           19634           100.00


                      # Last Jobs Outside Rn 1/3

                                          Cumulative      Cumulative
     n5      Frequency      Percent       Frequency        Percent
     ------------------------------------------------------------

       0           15836          80.66           15836            80.66
       1            3798          19.34           19634           100.00


                      # Retirement Jobs in Rn 1/3

                                          Cumulative      Cumulative
     n6      Frequency      Percent       Frequency        Percent
     ------------------------------------------------------------

       0           19100          97.28           19100            97.28
       1             478           2.43           19578            99.71
       2              50           0.25           19628            99.97
       3               6           0.03           19634           100.00
```

2001 JOBS
Types and Numbers of Jobs at Beginning of Year
Persons w/ a First-Round JOBS Record

| totjobs | n1 | n2 | n3 | n4 | n5 | n6 | Frequency | Percent | Cumulative Frequency | Cumulative Percent |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0 | 0 | 0 | 0 | 0 | 1 | 5 | 0.03 | 5 | 0.03 |
| 1 | 0 | 0 | 0 | 0 | 1 | 0 | 3581 | 18.24 | 3586 | 18.26 |
| 1 | 0 | 0 | 1 | 0 | 0 | 0 | 573 | 2.92 | 4159 | 21.18 |
| 1 | 1 | 0 | 0 | 0 | 0 | 0 | 12771 | 65.05 | 16930 | 86.23 |
| 2 | 0 | 0 | 0 | 0 | 0 | 2 | 4 | 0.02 | 16934 | 86.25 |
| 2 | 0 | 0 | 0 | 0 | 1 | 1 | 191 | 0.97 | 17125 | 87.22 |
| 2 | 0 | 0 | 1 | 0 | 0 | 1 | 6 | 0.03 | 17131 | 87.25 |
| 2 | 0 | 0 | 1 | 1 | 0 | 0 | 19 | 0.10 | 17150 | 87.35 |
| 2 | 0 | 0 | 2 | 0 | 0 | 0 | 24 | 0.12 | 17174 | 87.47 |
| 2 | 1 | 0 | 0 | 0 | 0 | 1 | 244 | 1.24 | 17418 | 88.71 |
| 2 | 1 | 0 | 0 | 0 | 1 | 0 | 2 | 0.01 | 17420 | 88.72 |
| 2 | 1 | 0 | 0 | 1 | 0 | 0 | 115 | 0.59 | 17535 | 89.31 |
| 2 | 1 | 0 | 1 | 0 | 0 | 0 | 648 | 3.30 | 18183 | 92.61 |
| 2 | 1 | 1 | 0 | 0 | 0 | 0 | 1162 | 5.92 | 19345 | 98.53 |
| 3 | 0 | 0 | 0 | 0 | 0 | 3 | 2 | 0.01 | 19347 | 98.54 |
| 3 | 0 | 0 | 0 | 0 | 1 | 2 | 23 | 0.12 | 19370 | 98.66 |
| 3 | 0 | 0 | 1 | 0 | 0 | 2 | 1 | 0.01 | 19371 | 98.66 |
| 3 | 0 | 0 | 2 | 1 | 0 | 0 | 1 | 0.01 | 19372 | 98.67 |
| 3 | 1 | 0 | 0 | 0 | 0 | 2 | 19 | 0.10 | 19391 | 98.76 |
| 3 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 0.01 | 19392 | 98.77 |
| 3 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0.01 | 19393 | 98.77 |
| 3 | 1 | 0 | 0 | 2 | 0 | 0 | 5 | 0.03 | 19398 | 98.80 |
| 3 | 1 | 0 | 1 | 0 | 0 | 1 | 6 | 0.03 | 19404 | 98.83 |
| 3 | 1 | 0 | 1 | 1 | 0 | 0 | 28 | 0.14 | 19432 | 98.97 |
| 3 | 1 | 0 | 2 | 0 | 0 | 0 | 27 | 0.14 | 19459 | 99.11 |
| 3 | 1 | 1 | 0 | 0 | 0 | 1 | 21 | 0.11 | 19480 | 99.22 |
| 3 | 1 | 1 | 0 | 1 | 0 | 0 | 24 | 0.12 | 19504 | 99.34 |
| 3 | 1 | 1 | 1 | 0 | 0 | 0 | 29 | 0.15 | 19533 | 99.49 |
| 3 | 1 | 2 | 0 | 0 | 0 | 0 | 69 | 0.35 | 19602 | 99.84 |
| 4 | 1 | 0 | 0 | 0 | 0 | 3 | 4 | 0.02 | 19606 | 99.86 |
| 4 | 1 | 0 | 1 | 2 | 0 | 0 | 2 | 0.01 | 19608 | 99.87 |
| 4 | 1 | 0 | 2 | 1 | 0 | 0 | 2 | 0.01 | 19610 | 99.88 |
| 4 | 1 | 1 | 0 | 0 | 0 | 2 | 3 | 0.02 | 19613 | 99.89 |
| 4 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 0.01 | 19614 | 99.90 |
| 4 | 1 | 1 | 0 | 2 | 0 | 0 | 1 | 0.01 | 19615 | 99.90 |
| 4 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 0.01 | 19616 | 99.91 |
| 4 | 1 | 2 | 0 | 0 | 0 | 1 | 2 | 0.01 | 19618 | 99.92 |
| 4 | 1 | 2 | 0 | 1 | 0 | 0 | 2 | 0.01 | 19620 | 99.93 |
| 4 | 1 | 2 | 1 | 0 | 0 | 0 | 4 | 0.02 | 19624 | 99.95 |
| 4 | 1 | 3 | 0 | 0 | 0 | 0 | 8 | 0.04 | 19632 | 99.99 |
| 5 | 1 | 4 | 0 | 0 | 0 | 0 | 1 | 0.01 | 19633 | 99.99 |
| 6 | 1 | 5 | 0 | 0 | 0 | 0 | 1 | 0.01 | 19634 | 100.00 |

                              S U D A A N
               Software for the Statistical Analysis of Correlated Data
               Copyright      Research Triangle Institute      January 2002
                              Release 8.0.1


Number of observations read    :  32122     Weighted count :284247327
Number of observations skipped :   1434
(WEIGHT variable nonpositive)
Observations in subpopulation  :  22501     Weighted count:208016743
Denominator degrees of freedom :    412

2001 JOBS
Persons Age 18+: # of Current Main & Miscellaneous Jobs at Beginning of Year

| # Curr Jobs | Sample | Population | SE Pop | RSE Pop | Column % | SE Col % | RSE Col % | flag |
|---|---|---|---|---|---|---|---|---|
| TOTAL | 18,788 | 177,412,325 | 3,573,971 | 0.020 | 100.00 | 0.00 | 0.000 | |
| None | 4,253 | 38,532,837 | 993,424 | 0.026 | 21.72 | 0.50 | 0.023 | |
| 1 | 13,238 | 125,450,809 | 2,903,682 | 0.023 | 70.71 | 0.54 | 0.008 | |
| 2 | 1,211 | 12,379,554 | 506,889 | 0.041 | 6.98 | 0.24 | 0.034 | |
| 3+ | 86 | 1,049,126 | 112,259 | 0.107 | 0.59 | 0.06 | 0.105 | |