/*APPENDIX 40*/

/*DERIVATIONS FOR 1997 *KEY* AND OTHER CREATED VARIABLES*/

/*June, 1999*/

/*INTRODUCTION. Below are the derivations for 1997 key and other created variables. Some variables were coded in SPSS, others in SAS. The programs have been put together here, paginated, and formatted to fit the page. Included are:

RNI/ISR ... p. 2
WORK, WUMP, WOLF... p. 6
1980 Industry/Occupation codes... p. 41
Net family assets, Net family income, Summation... p. 42
Highest grade completed... p. 45
Notes on pension and employer gaps rosters... p. 47
Hourly Rate of Pay... p. 50
Text entries for Hea9d, Par56, Par66... p. 51 */
**** SPSS code for 1997 RNI, ISR key variables, YW ******

COMPUTE SERIAL = R0000100 /* create SERIAL b/c it's easier to remember

****** Recode OUTCOME (R3498300) so the categories are consistent with the
****** the categories in RNI-CROSS-SECTION (R3498000)

RECODE R3498300 (201, 203, 204, 205=0) (213=11) (214=5) (216=1)
(217=6) (218=9) (219=11) (223=7) (234=8) (250=10)
(251=13) (260=4) (261=2) (270=2) (271=2) (999=99) INTO RNI97_XS

VAR LAB RNI97_XS 'RNI97-CROSS-SECTION'
VAL LAB RNI97_XS
0 '97 IW obtained'
1 'Unable to contact-Reason unspecified'
2 'Mover-good address, interview impossible'
3 'Mover-good address, unable to IW after repeated attempts'
4 'Mover-no good address given'
5 'Nonmover-unable to interview after repeated attempts'
6 'Temporarily absent'
7 'Armed Forces'
8 'Institutionalized'
9 'Refused'
10 'Deceased'
11 'Other'
12 'No interview for 2 yrs, dropped from sample'
13 'Moved outside US, not in Armed Forces'
14 'Congressional refusal'
99 'Out of scope in 97 (no contact attempt)

******* CREATING THE CUMULATIVE RNI VARIABLE FOR 1997 *******

** start by making the CUMULATIVE RNI = CROSS SECTION for Rs in 1997 sample
COMPUTE RNI97_CU = RNI97_XS

** Select the 2475 out-of-sample MW, assign them prior year's RNI code
DO IF (RNI97_CU = 99) /* selects 2475 out-of-scope MW respondents
.COMPUTE RNI97_CU = R1601200 /* copy 95 Cumulative RNI into 97 cumulative RNI
END IF

VAR LAB RNI97_CU '1997 Cumulative RNI'
VAL LAB RNI97_CU
0 '97 interview obtained'
1 'Unable to contact - Reason unspecified'
2 'Mover-good address, interview impossible'
3 'mover-good address, unable to interview'
4 'mover-no good address given'
5 'Nonmover-unable to interview after repeated attempts'
6 'Temporarily absent'
7 'Armed Forces'
8 'Institutionalized'
9 'Refused'
10 'Deceased'
11 'Other'
12 'No interview for 2 yrs, dropped from sample'
13 'Moved outside US, not in Armed Forces'
14 'Congressional refusal'
** 4 cases are Congressional Refusals
**** These 4 respondents notified Census after the 1995 Survey that they
**** were never to be re-interviewed. Thus, they are considered to be
**** Congressional Refusals (RNI = 14).

DO IF ANY(SERIAL, 1799, 3557, 3797)
  .COMPUTE RNI97_CU = 14
END IF

DO IF (RNI97_XS = 99) /* selects out-of-scope Respondents
  COMPUTE ISR97 = R1601300 /*copy previous ISR into ISR for 1997
ELSE
  RECODE RNI97_CU (0 = 1) (10 = 2) (9 = 3) (12 = 4) (7 = 5)
    (1,2,3,4,5,6,8,11,13 = 6) (14 = 8) (ELSE = -9) INTO ISR97
END IF

** 3 cases need values of 8 ("Congressional Refusal")
IF ANY(SERIAL, 1799, 3557, 3797)  ISR97 = 8

** 1 case has to have the 1997 ISR changed from "Dropped..." to "deceased"
IF (SERIAL = 2936)  ISR97 = 2

VAL LAB ISR97
  1 '1997 IW obtained'
  2 'Non-IW: Deceased'
  3 'Non-IW: Refused'
  4 'Non-IW: Dropped after 2 consecutive years as Non_interview'
  5 'Non-IW: Armed Forces'
  6 'Non-IW: Other'
  7 'Code not used in 97'
  8 'Non-IW: Congressional refusal'

** Convert SPSS namesd to Ref numbers
  COMPUTE R3498000 = RNI97_XS
  COMPUTE R3498100 = RNI97_CU
  COMPUTE R3498200 = ISR_97

FINISH
COMPUTE SERIAL = R0000100  /* create SERIAL b/c it's easier to remember

***** Recode OUTCOME (R3498300) so the categories are consistent with the
***** the categories in RNI-CROSS-SECTION (R3498000)

RECODE R3498300 (201, 203, 204, 205=0) (213=11) (214=5) (216=1)  
         (217=6) (218=9) (219=11) (223=7) (234=8) (250=10)  
         (251=13) (260=4) (261=2) (270=2) (271=2)  
         (999=99) INTO RNI97_XS

VAR LAB RNI97_XS  'RNI97-CROSS-SECTION'
VAL LAB RNI97_XS
0  '97 IW obtained'
1  'Unable to contact - Reason unspecified'
2  'Mover-good address, interview impossible'
3  'Mover-good address, unable to IW after repeated attempts'
4  'Mover-no good address given'
5  'Nonmover-unable to interview after repeated attempts'
6  'Temporarily absent'
7  'Armed Forces'
8  'Institutionalized'
9  'Refused'
10 'Deceased'
11  'Other'
12 'No interview for 2 yrs, dropped from sample'
13 'Moved outside US, not in Armed Forces'
14  'Congressional refusal'
99  'Out of scope in 97 (no contact attempt)'

********************************************************************************
* START BY MAKING THE CUMULATIVE RNI VARIABLE FOR 1997 *
********************************************************************************

** start by making the CUMULATIVE RNI = CROSS SECTION for Rs in 1997 sample
COMPUTE RNI97_CU = RNI97_XS

** Select the 2475 out-of-sample MW, assign them prior year's RNI code
DO IF (RNI97_CU = 99)  /* selects out-of-scopes MW respondents
    .COMPUTE RNI97_CU = R1601200  /* copy 95 Cumulative RNI into 97 cumulative RNI
END IF

VAR LAB RNI97_CU  '1997 Cumulative RNI'
VAL LAB RNI97_CU
0  '97 interview obtained'
1  'Unable to contact - Reason unspecified'
2  'Mover-good address, interview impossible'
3  'mover-good address, unable to interview'
4  'mover-no good address given'
5  'Nonmover-unable to interview after repeated attempts'
6  'Temporarily absent'
7  'Armed Forces'
8  'Institutionalized'
9  'Refused'
10 'Deceased'
11  'Other'
12 'No interview for 2 yrs, dropped from sample'
13 'Moved outside US, not in Armed Forces'
14  'Congressional refusal'
*######## 4 cases are Congressional Refusals
** This YW notified Census after the 1995 Survey that she never be
** contacted again. Thus, she is coded as a Congressional Refusals (RNI = 14).

IF (SERIAL = 0238)                  RNI97_CU = 14

DO IF (RNI97_XS = 99)                /* selects out-of-scope Respondents
COMPUTE   ISR97 = R1601300          /* copy previous ISR into ISR for 1997
ELSE
RECODE    RNI97_CU      (0 = 1)   (10 = 2)   (9 = 3)   (12 = 4)   (7 = 5)
         (1,2,3,4,5,6,8,11,13 = 6)   (14 = 8)   (ELSE = -9) INTO ISR97
END IF

** 1 case needs to be assigned to "Congressional Refusal"
IF (SERIAL = 0238)                  ISR97 = 8

VAL LAB   ISR97
1  '1997 IW obtained'
2  'Non-IW: Deceased'
3  'Non-IW: Refused'
4  'Non-IW: Dropped after 2 consecutive years as Non_interview'
5  'Non-IW: Armed Forces'
6  'Non-IW: Other'
7  'Code not used in 97'
8  'Non-IW: Congressional refusal'

** Convert SPSS names to Reference numbers

COMPUTE R3498000 = RNI97_XS
COMPUTE R3498100 = RNI97_CU
COMPUTE R3498200 = ISR_97

FINISH
SPSS code used to create key variables WORK, WUMP, WOLF for MW cohort

** This initializes variables that will be used at various points in the program.

NUMERIC EMPST08D /* EMP-START-ARR-08D
NUMERIC EMPST09D /* EMP-START-ARR-09D
NUMERIC GAP_1.8 / GAP_1.9
NUMERIC BLANK
NUMERIC GAP_2.3 / GAP_2.5 / GAP_2.6 / GAP_2.7 / GAP_2.8 / GAP_2.9
NUMERIC INTCK.9 /* square roster for INTER-CK-ARR

COMPUTE SERIAL = R3495000

** This selects the Rs who were interviewed in 1997
SELECT IF (R3498800 > -3)

**** The individual D-M-Y variables are combined to form a single variable
**** measuring the date. This is done using one of the the SPSS date aggregation functions.
**** It makes adding, subtracting, and otherwise comparing dates much easier.

*** DOLI
COMPUTE DOLI = DATE.DMY(R3498900, R3499000, R3499100)
PRINT FORMAT DOLI (DATE9)

*** DOI
COMPUTE DOI = DATE.DMY(R3498600, R3498700, R3498800)
PRINT FORMAT DOI (DATE9)

** Calculate Weeks Between Interview Dates WBID.W

COMPUTE WBID.RAW = ((CTIME.DAYS(DOI - DOLI)) / 7)
VAR LAB WBID.RAW '# weeks btwn intvs, not rounded off yet (DOI - DOLI)'

COMPUTE WBID = RND((CTIME.DAYS(DOI - DOLI)) / 7)
VAR LAB 'WBID, rounded off'

****** Employer start and End dates *************
****** NO REFERENCE DATE CREATED IF ENAME HAD NO ACTIVITY SINCE DOLI
****** NO MISSING DATES WERE IMPUTED (if day is missing the entire
date is missing)

DO REPEAT
   REFS7_D = R4236000 R4236600 R4237200 R4237800 R4238400 R4239000
   / REFS7_M = R4236100 R4236700 R4237300 R4237900 R4238500 R4239100
   / REFS7_Y = R4236200 R4236800 R4237400 R4238000 R4238600 R4239200
   / REFS7 = REFS71 REFS72 REFS73 REFS74 REFS75 REFS76 REFS77
   / REFS78 REFS79
   / REFS8_D = R4236300 R4236900 R4237500 R4238100 R4238700 R4239300
   / REFS8_M = R4236400 R4237000 R4237600 R4238200 R4238800 R4239400
   / REFS80000 R4240500 R4241000
** This creates copies of the original D-M-Y variables that will be
** used to create the start and end dates.
COMPUTE ST_DAY = REFST_D
COMPUTE ST_MO = REFST_M
COMPUTE ST_YEAR = REFST_Y
COMPUTE END_DAY = REFEND_D
COMPUTE END_MO = REFEND_M
COMPUTE END_YEAR = REFEND_Y
* Create dates only if Ename had activity since DOLI, or if an END-GAP exists
DO IF NVAL(CK_RSP_I) ge 1 or NVAL(GAP_1) ge 1

.COMPUTE REF_ST = DATE.DMY(Refst_D, Refst_M, Refst_Y)
.COMPUTE REF_END = DATE.DMY(Refen_D, Refen_M, Refen_Y)

** Hand edit the End date for these respondents who had
** the wrong PC system date and thus the wrong REFEND1 date
.DO IF ANY(SSRERAL, 0058, 0778)
.COMPUTE REFEND1 = DOI
.END IF
END IF

PRINT FORMAT REF_ST REF_END (DAT89)
END REPEAT

VAR LAB REFEND1 'End date for Ename 1'
/ REFEND2 'End date for Ename 2'
/ REFEND3 'End date for Ename 3'
/ REFEND4 'End date for Ename 4'
/ REFEND5 'End date for Ename 5'
/ REFEND6 'End date for Ename 6'
/ REFEND7 'End date for Ename 7'
/ REFEND8 'End date for Ename 9'
/ REFST1 'Start date for Ename 1'
/ REFST2 'Start date for Ename 2'
/ REFST3 'Start date for Ename 3'
/ REFST4 'Start date for Ename 4'
/ REFST5 'Start date for Ename 5'
/ REFST6 'Start date for Ename 6'
/ REFST7 'Start date for Ename 7'
/ REFST9 'Start date for Ename 9'
PART 1

Preliminary variables

** GAP_CENS: This universe variable places respondents into 1 of 5 groups.
** 0 = No gaps at all
** 1 = DOLI-gap only, No work at all
** 2 = DOLI-gap only, worked since DOLI
** 3 = End-gap only
** 4 = Both kinds of gaps

**** Calculate DBID: # DAYS Between Interview Dates
COMPUTE DBID = CTIME.DAYS(DOI - DOLI)
VAR LAB DBID ' # DAYS btwn intvs, not rounded off yet (DOI - DOLI)'

****** number of gap questions hit
COUNT NUM_GAP1 = R3887200, R3887800, R3888400, R3889000, R3889600, R3890200,
               R3890800, GAP_1.8, GAP_1.9 (-2 thru HI)
RECODE NUM_GAP1 (1 thru HI = 1) (0=0) INTO HIT_1

COMPUTE HIT_1B = 0
IF (R3893000 ge -2) HIT_1B = 1 /* DOLI-GAP (Gap-1B) */

*** This is needed because a few cases have an End-gap and a pair of dates, but CK-RSP-I is blank.

NUMERIC EMP01 to EMP09
IF NVAL(R3638000, R3887200) > 0 EMP01 = 1
IF NVAL(R3638700, R3887800) > 0 EMP02 = 1
IF NVAL(R3678200, R3888400) > 0 EMP03 = 1
IF NVAL(R3698200, R3889000) > 0 EMP04 = 1
IF NVAL(R3717500, R3889600) > 0 EMP05 = 1
IF NVAL(R3736100, R3890200) > 0 EMP06 = 1
IF NVAL(R3752600, R3890800) > 0 EMP07 = 1
IF NVAL(R3768800, GAP_1.8) > 0 EMP08 = 1
IF NVAL(R3784800, GAP_1.9) > 0 EMP09 = 1

COUNT NUM_ACT = EMP01, EMP02, EMP03, EMP04, EMP05, EMP06, EMP07, EMP08, EMP09
RECODE NUM_ACT (0=0) (1 THRU HI=1) INTO ACTIV
VAR LAB NUM_ACT ' # Enames with activity, or and END-GAP'
   / EMP01 'Ename 01 has activity, or END-GAP, or both'
   / EMP02 'Ename 02 has activity, or END-GAP, or both'
   / ACTIV 'Activity since DOLL, or END-GAP'

IF (HIT_1 = 0) AND (HIT_1B = 0) CENS_GAP = 0
IF (HIT_1B = 1) AND (HIT_1 = 0) AND (NUM_ACT = 0) CENS_GAP = 1
IF (HIT_1B = 1) AND (HIT_1 = 0) AND (NUM_ACT ge 1) CENS_GAP = 2
IF (HIT_1 = 1) AND (HIT_1B = 0) CENS_GAP = 3
IF (HIT_1 = 1) AND (HIT_1B = 1) CENS_GAP = 4

VAR LAB HIT_1B 'R has data in GAP-1B (thus, has a DOLI-GAP)'
   / HIT_1 'R hit 1 or more GAP-1 question (thus, has an END-GAP)'
   / CENS_GAP 'UNIVERSES OF GAPS: using raw Census data & skips'

VAL LAB CENS_GAP 0 'No gap at all' 1 'DOLI-gp, no work'
               2 'DOLI-gp, worked' 3 'End-gp only' 4 'Both gaps'
PART 2

IDENTIFY Rs who worked entire spell btwn interviews

WORKALL = Use WEEKS array to identify Rs who worked the whole time

The variable WORKALL is created using Loops and the WEEK array variables. It takes into account overlapping periods of work.

NOTES:
NO REFERENCE DATES CREATED IF ENAME HAD NO ACTIVITY SINCE DOLI
(if R3638000 and GAP-1B are blank [missing] no date was created)

MISSING DATES WERE NOT IMPUTED. That is, if the 'day' portion of DD/MM/YYYY is missing the entire date is missing.

VECTOR WEEK(950) /* create WEEK array variables, one for each week BID
VECTOR DAY(6650) /* assigns 1=Working to each DAY variable

DO REPEAT
  START = REFS1 REFS2 REFS3 REFS4 REFS5 REFS6 REFS7
  / END = REFS1 REFS2 REFS3 REFS4 REFS5 REFS6
             ST8.W ST9.W
  / WORKN = WORK1 WORK2 WORK3 WORK4 WORK5 WORK6 WORK7 WORK8
            WORK9
  / WORKD = WORKD1 WORKD2 WORKD3 WORKD4 WORKD5 WORKD6 WORKD7
            WORKD8 WORKD9
  / DOLI.D = DOLI.1 DOLI.2 DOLI.3 DOLI.4 DOLI.5 DOLI.6 DOLI.7
            DOLI.8 DOLI.9

  IF (END > DOLI) END = DOLI
  IF NVAL(START, END) = 1 MISSDATE = 1 /* marks cases with a missing job date

  COMPUTE WORKD = CTIME.DAYS(END - START)

  *** Convert employer dates to # DAYS after DOLI
  COMPUTE ST.D = (CTIME.DAYS(START - DOLI)) + 1
  COMPUTE END.D = (CTIME.DAYS(END - DOLI))
  COMPUTE WORKD = CTIME.DAYS(END - START)

  *** Loops for filling in 1=working
  DO IF NVAL(ST.D, END.D) = 2
     .LOOP DAY# = ST.D to END.D
        .COMPUTE DAY(DAY#) = 1
     END LOOP
  END IF

  ** Convert employer dates to a week number (W#) with respect to the DOLI
  ** week#. 3.49 is subtracted to create ST.W to reduce the effects of rounding.
  ** But 2 cases are still misclassified so their ST.W value will be
  ** hand-edited later.
COMPUTE ST.W  =  RND((CTIME.DAYS(START - DOLI) - 3.49) / 7) + 1
COMPUTE END.W =  RND(CTIME.DAYS(END - DOLI) / 7)
COMPUTE WORKN =  RND(CTIME.DAYS(END - START) / 7) /* number of weeks working

* 
HAND-EDIT data for selected cases
*
** The DOLI-Gap is actually 4, 5, or 6 days so there is a **
** gap of 1 week, rounded up. This is consistent with what CASES found **
** and the values in R3893000 (Gap-1B). The respondents affected are **
** SERIAL = 4082, 1780) **
DO IF (CTIME.DAYS(START - DOLI) > 3) & (CTIME.DAYS(START - DOLI) < 7)
  .COMPUTE ST.W = 2
END IF

IF NVAL(START, END) = 1 WORKW = -3
IF NVAL(START, END) ge 1 MISS_ST = 0
IF NVAL(END)=1 & SYSMIS(START) MISS_ST = 1

*** Loops for filling in 1-working
DO IF NVAL(START, END) = 2
  .LOOP WRK# = ST.W to END.W
  .COMPUTE WEEK(WRK#) = 1
END LOOP
END IF
END REPEAT

************************************************************************************
** CREATE THE # DAYS WORKING and # WEEKS WORKING (WORKW)
**
COUNT WORKW.N = WEEK1 to WEEK950(1) /* # of weeks working
COUNT WORKD.N = DAY1 TO DAY6650(1) /* # of days working
COMPUTE WORKRAW = (WORKD.N / 7) /* # weeks working, not rounded
COMPUTE WORKW = RND(WORKRAW / 7) /* # weeks working, using DAYS ARRAY
************************************************************************************

************ Create WORKALL ************
COMPUTE WORKALL = 0 /* default value
IF ABS(WORKD.N - DBID) < 3.5 WORKALL = 1

DO IF WORKALL ne 1
  .IF MISSDATE = 1 WORKW = -3
END IF

VAR LAB WORKALL 'Rs worked entire spell between interviews'
  / WORKW.N '# WEEKS working, from WEEKS array'
  / WORKD.N '# of days working'
  / WORKW '# weeks working, using DAYS ARRAY'
  / WORK1 '# Weeks working for ENAME 1'
  / WORK2 '# Weeks working for ENAME 2'
  / WORK3 '# Weeks working for ENAME 3'
  / WORK4 '# Weeks working for ENAME 4'
  / MISS_ST 'A start date is missing (but END is ok)'

************************************************************************************
* Rs working entire spell *
** Assign WBFPL, WUPML, and WOLF1 to respondents who worked **
** the entire spell, and those who have a missing date **
** and thus leaves the weeks-worked undefined. **
************************************************************************************
DO IF (WORKALL = 1)
   .COMPUTE WEMP1 = WORKW /* # weeks working computed from DAYS array
   .COMPUTE WUMP1 = 0
   .COMPUTE WOLF1 = 0
END IF

*============================================================================*
*/   */ PART 2 DOLI gap exists
*
**
** Rs who did no work at all since DOLI, and those whose only
** gap in employment is from the DOLI to the earliest START DATE
** after the DOLI. (In other words, people who were not working
** on the DOLI, but who were working on the DOI have a DOLIGAP
** only).
**
*----------------------------------------------------------------------*

DO IF (HIT_1B = 1) & (WORKALL ne 1) /* R did not work the whole time
   COMPUTE DOLIGP0 = CTIME.DAYS(DOI - DOLI) /* This is the DOLIGAP for Rs who
   */ didn't work at all

DO REPEAT
   START = REFS1 REFS2 REFS3 REFS4 REFS5 REFS6
   REFS7 REFS8 REFS9
   / END = REFEND1 REFEND2 REFEND3 REFEND4 REFEND5 REFEND6
   REFEND7 REFEND8 REFEND9
   / DOLI_GAP = DOLIGP1 to DOLIGP9

   DO IF NVAL(START, END) > 0 /* if there is at least one date
      .COMPUTE DOLI_GAP = CTIME.DAYS(START - DOLI)
      .IF SYMIS(START) DOLI_GAP = -3
      .IF SYMIS(START) DOLIGP0 = -3
   END IF
   END REPEAT

*** Find the smallest gap between DOLI and employer start dates
*** If a start date was missing then the shortest gap can't be determined
*** because the missing start-date might have been earlier than the
*** other Start-date or dates.

   .COMPUTE MINGAP = MIN(DOLIGP0, DOLIGP1, DOLIGP2, DOLIGP3, DOLIGP4, DOLIGP5,
   DOLIGP6, DOLIGP7, DOLIGP8, DOLIGP9)
   .MISS VAL MINGAP (-3) /* if any Start date is missing, DOLIGAP is missing

   .COMPUTE DOLIGAP = RND(MINGAP / 7)

** -----------------------------
** HAND EDITS
** MINGAP is wrong because the START- and END-dates are messed up.
** For example, the last 3 Rs have DOLI = START1 = EN1 (so the GAP = WBID)
   IF SERIAL = 0368 DOLIGAP = WBID /* 113 weeks
   IF SERIAL = 0607 DOLIGAP = WBID /* 108 weeks
   IF SERIAL = 3014 DOLIGAP = WBID /* 115 weeks
   IF SERIAL = 1106 DOLIGAP = WBID /* 107 weeks
   IF SERIAL = 1816 DOLIGAP = WBID /* 107 weeks
   IF SERIAL = 2640 DOLIGAP = WBID /* 106 weeks

   .COMPUTE GAP_1B = R38930000 /* Gap-1b: looking for ALL, SOME, or NONE weeks?
   .COMPUTE GAP_2B = R38931000 /* Gap-2b: # weeks looking for work

   .IF GAP_1B = 1 LOOKB = DOLIGAP /* looked for work "ALL" weeks in DOLI-GAP
   .IF GAP_1B = 1 OLFB = 0 /* was not looking for 0 weeks
.* IF GAP_1B = 2   LOOKB = GAP_2B  /* looked "SOME" weeks, # wks shown in GAP-2B
.* IF GAP_1B = 2   OLFB = R3893200    /* # weeks R was not looking
.
.* IF GAP_1B = 3   LOOKB = 0       /*** looked for work "NONE" weeks in DOLI-GAP
.* IF GAP_1B = 3   OLFB = DOLIGAP    /*** was not looking for entire gap (OLF)

** missing values
.* IF (GAP_1B < 0) or (GAP_2B < 0)   LOOKB = -3       /* will be declared missing
.* IF (GAP_1B < 0) or (GAP_2B < 0)   OLFB = -3        /* will be declared missing
END IF
EXECUTE

***** This R had a missing START date, but a closer look
***** shows that the DOLIGAP could be determined -- it's = R3893200
IF SERIAL = 4385  DOLIGAP = R3893200

******************************************************************************
*** Assign WEMP2, WUMP2, WOLF2  ***
*** R's who have only a DOLI-GAP  ***
******************************************************************************

DO IF (HIT_1B = 1) & (HIT_1 = 0)          /* DOLI GAP only
  .COMPUTE WEMP2 = WORKW
  .COMPUTE WUMP2 = LOOKB
  .COMPUTE WOLF2 = OLFB
END IF

******************************************************************************
execute

VAR LAB  WEMP1  '# weeks wrking, WORKALL = 1'
  WUMP1  '# Weeks looking, WORKALL = 1'
  WOLF1  '# Weeks not looking, WORKALL = 1'
  DOLIGAP  'DOLI-GAP ends this # weeks after DOLI'
  WEMP2  '#wks working, DOLI-gp only'
  WUMP2  '#wks looking, DOLI-gp only'
  WOLF2  '#wks OLF, DOLI-gp only'

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

****** PART 4 END GAPS ******

***

Determine END-GAP length for each Ename ******

***

* These identifies the Start-Dt and End-Dt of each gap occurring at the
* of each Ename. The number assigned to the start anf end of each gap is
* the number of weeks after the DOLI. Thus, if GST1.W = 20 it means that
* the gap after Ename 1 began 20 weeks after the DOLI. If GEND1.W = 35
* it means that the first gap ended 35 weeks after the DOLI. Therefore
* the duration of the gap was 15 weeks.

****** UNIVERSE RESTRICTORS
DO IF (WORKALL ne 1)  /*** Skips Rs who definitely worked the entire spell.
  /*** Only Rs who had a gap, or who weren't defined as
  /*** working the whole time because of missing dates
  /*** are going into this section.
  & (HIT_1 = 1)  /* select Rs who have data in GAP-1 array
.***** Ename in first column only (EMP 01)
.DO IF NVAL(EMP01) = 1 & NVAL(EMP02 to EMP09) = 0
.COMPUTE GST1.W = END1.W + 1
.COMPUTE GEND1.W = WBID
.END IF

*** Blank after 2
.DO IF NVAL(EMP02) = 1 & NVAL(EMP03 to EMP09) = 0
.COMPUTE GST2.W = END2.W + 1
.COMPUTE GEND2.W = WBID
.END IF

*** Blank after 3
DO IF NVAL(EMP03) = 1 & NVAL(EMP04 to EMP09) = 0
COMPUTE GST3.W = END3.W + 1
COMPUTE GEND3.W = WBID
END IF

*** Blank after Column 4
DO IF NVAL(EMP04) = 1 & NVAL(EMP05 to EMP09) = 0
COMPUTE GST4.W = END4.W + 1
COMPUTE GEND4.W = WBID
END IF

*** Blank after Column 5
DO IF NVAL(EMP05) = 1 & NVAL(EMP06 to EMP09) = 0
COMPUTE GST5.W = END5.W + 1
COMPUTE GEND5.W = WBID
END IF

*** Blank after Column 6
DO IF NVAL(EMP06) = 1 & NVAL(EMP07 to EMP09) = 0
COMPUTE GST6.W = END6.W + 1
COMPUTE GEND6.W = WBID
END IF

*** Blank after Column 7
DO IF NVAL(EMP07) = 1 & NVAL(EMP08 to EMP09) = 0
COMPUTE GST7.W = END7.W + 1
COMPUTE GEND7.W = WBID
END IF

*** Blank after 8
DO IF NVAL(EMP08) = 1 & NVAL(EMP09) = 0
COMPUTE GST8.W = END8.W + 1
COMPUTE GEND8.W = WBID
END IF

*** Blank after 9
DO IF NVAL(EMP09) = 1
COMPUTE GST9.W = END9.W + 1
COMPUTE GEND9.W = WBID
END IF

*************** // adjacent ENAMES \***************
*** 1,2 adjacent -- Enames in column 1 & 2
DO IF NVAL(EMP01, EMP02) = 2
.COMPUTE GST1.W = END1.W + 1
.COMPUTE GEND1.W = ST2.W
END IF
*** 2,3 adjacent -- Enames in column 2 & 3
DO IF NVAL(EMP02, EMP03) = 2
COMPUTE GST2.W = END2.W + 1
COMPUTE GEND2.W =ST3.W
END IF

*** 3,4 adjacent -- Enames in column 3 & 4
DO IF NVAL(EMP03, EMP04) = 2
COMPUTE GST3.W = END3.W + 1
COMPUTE GEND3.W =ST4.W
END IF

*** 4,5 adjacent -- Enames in column 4 & 5
DO IF NVAL(EMP04, EMP05) = 2
COMPUTE GST4.W = END4.W + 1
COMPUTE GEND4.W =ST5.W
END IF

*** 5,6 adjacent -- Enames in column 5 & 6
DO IF NVAL(EMP05, EMP06) = 2
COMPUTE GST5.W = END5.W + 1
COMPUTE GEND5.W =ST6.W
END IF

*** 6,7 adjacent -- Enames in column 6 & 7
DO IF NVAL(EMP06, EMP07) = 2
COMPUTE GST6.W = END6.W + 1
COMPUTE GEND6.W =ST7.W
END IF

*** 7,8 adjacent -- Enames in column 7 & 8
DO IF NVAL(EMP07, EMP08) = 2
COMPUTE GST7.W = END7.W + 1
COMPUTE GEND7.W =ST8.W
END IF

*** 8,9 adjacent -- Enames in column 8 & 9
DO IF NVAL(EMP08, EMP09) = 2
COMPUTE GST8.W = END8.W + 1
COMPUTE GEND8.W =ST9.W
END IF

****   // EMP Rosters with blank columns   \\
****
*** Column 1 & 3
DO IF NVAL(EMP01, EMP03)=2 & SYSMIS(EMP02)
COMPUTE GST1.W = END1.W + 1
COMPUTE GEND1.W =ST3.W
END IF

*** Column 1 & 4
DO IF NVAL(EMP01, EMP04)=2 & NVAL(EMP02, EMP03)=0
COMPUTE GST1.W = END1.W + 1
COMPUTE GEND1.W =ST4.W
END IF

*** Column 1 & 5
DO IF NVAL(EMP01, EMP05)=2 & NVAL(EMP02 to EMP04)=0
COMPUTE GST1.W = END1.W + 1
COMPUTE GEND1.W =ST5.W
END IF
*** Column 1 & 6
DO IF NVAL(EMP01, EMP06)=2 & NVAL(EMP02 to EMP05)=0
COMPUTE GST1.W = END1.W + 1
COMPUTE GEND1.W = ST6.W
END IF

*** Column 1 & 7
DO IF NVAL(EMP01, EMP07)=2 & NVAL(EMP02 to EMP06)=0
COMPUTE GST1.W = END1.W + 1
COMPUTE GEND1.W = ST7.W
END IF

*** Column 1 & 8
DO IF NVAL(EMP01, EMP08)=2 & NVAL(EMP02 to EMP07)=0
COMPUTE GST1.W = END1.W + 1
COMPUTE GEND1.W = ST8.W
END IF

*** Column 1 & 9
DO IF NVAL(EMP01, EMP09)=2 & NVAL(EMP02 to EMP08)=0
COMPUTE GST1.W = END1.W + 1
COMPUTE GEND1.W = ST9.W
END IF

*** Column 2 & 4
DO IF NVAL(EMP02, EMP04)=2 & NVAL(EMP03)=0
COMPUTE GST2.W = END2.W + 1
COMPUTE GEND2.W = ST4.W
END IF

*** Column 2 & 5
DO IF NVAL(EMP02, EMP05)=2 & NVAL(EMP03 to EMP04)=0
COMPUTE GST2.W = END2.W + 1
COMPUTE GEND2.W = ST5.W
END IF

*** Column 2 & 6
DO IF NVAL(EMP02, EMP06)=2 & NVAL(EMP03 to EMP05)=0
COMPUTE GST2.W = END2.W + 1
COMPUTE GEND2.W = ST6.W
END IF

*** Column 2 & 7
DO IF NVAL(EMP02, EMP07)=2 & NVAL(EMP03 to EMP06)=0
COMPUTE GST2.W = END2.W + 1
COMPUTE GEND2.W = ST7.W
END IF

*** Column 2 & 8
DO IF NVAL(EMP02, EMP08)=2 & NVAL(EMP03 to EMP07)=0
COMPUTE GST2.W = END2.W + 1
COMPUTE GEND2.W = ST8.W
END IF

*** Column 2 & 9
DO IF NVAL(EMP02, EMP09)=2 & NVAL(EMP03 to EMP08)=0
COMPUTE GST2.W = END2.W + 1
COMPUTE GEND2.W = ST9.W
END IF
*** Column 3 & 5
DO IF NVAL(EMP03, EMP05)=2 & NVAL(EMP04)=0
COMPUTE GST3.W = END3.W + 1
COMPUTE GEND3.W = ST5.W
END IF

*** Column 3 & 6
DO IF NVAL(EMP03, EMP06)=2 & NVAL(EMP04 to EMP05)=0
COMPUTE GST3.W = END3.W + 1
COMPUTE GEND3.W = ST6.W
END IF

*** Column 3 & 7
DO IF NVAL(EMP03, EMP07)=2 & NVAL(EMP04 to EMP06)=0
COMPUTE GST3.W = END3.W + 1
COMPUTE GEND3.W = ST7.W
END IF

*** Column 3 & 8
DO IF NVAL(EMP03, EMP08)=2 & NVAL(EMP04 to EMP07)=0
COMPUTE GST3.W = END3.W + 1
COMPUTE GEND3.W = ST8.W
END IF

*** Column 3 & 9
DO IF NVAL(EMP03, EMP09)=2 & NVAL(EMP04 to EMP08)=0
COMPUTE GST3.W = END3.W + 1
COMPUTE GEND3.W = ST9.W
END IF

*** Column 4 & 6
DO IF NVAL(EMP04, EMP06)=2 & NVAL(EMP05)=0
COMPUTE GST4.W = END4.W + 1
END IF

*** Column 4 & 7
DO IF NVAL(EMP04, EMP07)=2 & NVAL(EMP05 to EMP06)=0
COMPUTE GST4.W = END4.W + 1
COMPUTE GEND4.W = ST7.W
END IF

*** Column 4 & 8
DO IF NVAL(EMP04, EMP08)=2 & NVAL(EMP05 to EMP07)=0
COMPUTE GST4.W = END4.W + 1
COMPUTE GEND4.W = ST8.W
END IF

*** Column 4 & 9
DO IF NVAL(EMP04, EMP09)=2 & NVAL(EMP05 to EMP08)=0
COMPUTE GST4.W = END4.W + 1
END IF

*** Column 5 & 7
DO IF NVAL(EMP05, EMP07)=2 & NVAL(EMP06)=0
COMPUTE GST5.W = END5.W + 1
COMPUTE GEND5.W = ST7.W
END IF
*** Column 5 & 8
DO IF NVAL(EMP05, EMP08)=2 & NVAL(EMP06, EMP07)=0
    COMPUTE GST5.W = END5.W + 1
    COMPUTE GEND5.W = ST8.W
END IF

*** Column 5 & 9
DO IF NVAL(EMP05, EMP09)=2 & NVAL(EMP06 to EMP08)=0
    COMPUTE GST5.W = END5.W + 1
    COMPUTE GEND5.W = ST9.W
END IF

*** Column 6 & 8
DO IF NVAL(EMP06, EMP08)=2 & NVAL(EMP07)=0
    COMPUTE GST6.W = END6.W + 1
    COMPUTE GEND6.W = ST8.W
END IF

*** Column 6 & 9
DO IF NVAL(EMP06, EMP09)=2 & NVAL(EMP07 to EMP08)=0
    COMPUTE GST6.W = END6.W + 1
END IF

*** Column 7 & 9
DO IF NVAL(EMP07, EMP09)=2 & NVAL(EMP08)=0
    COMPUTE GST7.W = END7.W + 1
    COMPUTE GEND7.W = ST9.W
END IF
END IF

******* HAND EDIT GST.W & GEND.W DATA  **********************

***** Hand edit End-Gap week data for Ename 1
***** These cases need special attention because
***** the order of job dates didn't always follow
***** the order in which jobs were listed. For example,
***** the End1 date was after the ST2 date for these
***** Rs, so the GAP-1 length had to be computed by
***** looking at the start date of a later job, or
***** sometimes looking at the DOI. There are 21 Rs
***** in this DO-REPEAT loop.

DO REPEAT
    CASEID = 3089   1278   4720   2741   3686
            / ST.WK = ST3.W  WBID  ST5.W  WBID  WBID
    IF (SERIAL = CASEID) GST1.W = END1.W + 1
    IF (SERIAL = CASEID) GEND1.W = ST.WK
    IF (SERIAL = CASEID) HANDED = 1
END REPEAT

***** Hand edit End-Gap2 (GST2.W, GEND2.W) week data for Ename 2

DO REPEAT
    CASEID = 13633  10511
            / ST.WK =    WBID  ST4.W
    IF (SERIAL = CASEID) GST2.W = END2.W + 1
    IF (SERIAL = CASEID) GEND2.W = ST.WK
    IF (SERIAL = CASEID) HANDED = 2
END REPEAT

***** Other hand edits
    IF (SERIAL = 2426) GST4.W = END4.W + 1
    IF (SERIAL = 2426) GEND4.W = ST6.W
**************************

** COMPUTE # WEEKS IN EACH END-GAP **

**

** BLANK Gap-dates if Census didn't find an End-Gap.
** For example, if GAP-2-ARR-02 is blank then GST2.W,
** GEND2.W, and GAP2.N are blanked out. This is because there
** is no UMP or OLF data available if (a) there was
** no End-gap or (b) there was actually a gap (as judged from
** Ename reference dates) but the CAPI program missed it and
** thus skipped questions GAP-1, GAP-2, and INTERCK.

** some hand edits of data, only if dates are there and correct
IF (SERIAL=2276) R3887400 = 28 /* definitely the correct gap length
IF (SERIAL=2267) R3888000 = 0 /* END2 overlaps START3, so no gap

DO IF (WORKALL ne 1) & (CENS_GAP ge 3)

DO REPEAT

GAP_1 = R3887200 R3887800 R3888400 R3889000 R3889600 R3890200
       R3890800 GAP_1.8 GAP_1.9

/ GAP_2 = R3887300 R3887900 GAP_2.3 R3889100 GAP_2.5 GAP_2.6
       GAP_2.7 GAP_2.8 GAP_2.9

/ Inter_ck = R3887400 R3888000 R3888600 R3889200 R3889800 R3890400
          R3891000 R3891600 INTCK.9

          GST8.W GST9.W


/ GAPCENS = CGAP1 to CGAP09

IF SYSMIS(GAP_1) GAP_ST = BLANK
IF SYSMIS(GAP_1) GAP_END = BLANK

COMPUTE GAP_N = (GAP_END - GAP_ST) + 1 /* # of weeks in END-gap

MISS VAL GAP_2 MISSVAL INTER_CK(LO thru -1)
COMPUTE GAPCENS = GAP_2 + INTER_CK /* Total # weeks not working
MISS VAL GAP_2 INTER_CK() ()

IF NVAL(GAP_ST) = 1 & SYSMIS(GAP_END) GAP_N = -3
IF NVAL(GAP_ST) = 1 & SYSMIS(GAP_END) GAP_END = -3

END REPEAT
END IF

********** Hand edits **********

** After reviewing each case it was determined that
** the following Gap-length values are correct.
IF (SERIAL = 2267) GAP2.N = 0
IF (SERIAL = 2289) GAP2.N = 9 /* round to 9 instead of 10
IF (SERIAL = 2289) GAP2.N = 9 /* round to 9 instead of 10

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

****** PART 4.B -- END-GAP EXISTS ******

******

****** Creates LOOKA, OLFA, and END-GAP length variables ******

**************************
** This recodes GAP-1, GAP-2, INTER-CK so they can be used in LOOP and VECTOR commands to construct the weeks variables. **

**

** If GAP-1 = 1 (all weeks looking):
**
**   LOOKA = # wks in End-gap
**
**   OLFA = 0
**

**

** If GAP-1 = 2 (some weeks looking):
**
**   LOOKA = GAP-2
**
**   OLFA = INTER-CK
**

**

** If GAP-1 = 3 (no weeks looking):
**
**   LOOKA = 0
**
**   OLFA = INTER-CK
**

*=================================================================================================

DO IF (WORKALL ne 1)  /* and R didn't work the whole time
 & (HIT_1 = 1)  /* only if R hit GAP-1 array questions,

DO REPEAT
   GAP_1 = R3897200 R3897900 R3898400 R3898900 R3899600 R3890200
          R3890800 GAP_1.8 GAP_1.9
   / GAP_2 = R3897300 R3897900 GAP_2.3 R3898100 GAP_2.5 GAP_2.6
          GAP_2.7 GAP_2.8 GAP_2.9
   / Inter_ck = R3897400 R3898000 R3898600 R3899200 R3899800 R3890400
               R3891000 R3891600 INTCK.9
   / GAPCENS = CGAP1 CGAP2 CGAP3 CGAP4 CGAP5 CGAP6 CGAP7 CGAP8
           CGAP9
   / LOOKA = LOOKA1 to LOOKA09
   / OLFA = OLFA1 to OLFA09

DO IF (GAP_1 = 1)  /* looked for all weeks during gap (all weeks UMP)
   .COMPUTE LOOKA = GAP_N
   .COMPUTE OLFA = 0
END IF

DO IF (GAP_1 = 2)  /* looked for work some of weeks in gap, mix of UMP & OLF
   .COMPUTE LOOKA = GAP_2
   .COMPUTE OLFA = INTER_CK
END IF

DO IF (GAP_1 = 3)  /* didn't look at all during gap (all weeks OLF)
   .COMPUTE LOOKA = 0
   .COMPUTE OLFA = INTER_CK
END IF

DO IF (GAP_1 < 0)  /* Don't Know or Refuse to say # weeks looking
   .COMPUTE LOOKA = -3
   .COMPUTE OLFA = -3
END IF

DO IF (GAP_2 < 0)  /* Don't Know or Refuse to say # weeks looking
   .COMPUTE LOOKA = -3
   .COMPUTE OLFA = -3
END IF

RECODE LOOKA OLFA (LO thru -1 = SYSMIS)  /* If DK #wks looking
                                           /* then LOOKA is missing
COMPUTE GAPCENS = LOOKA + OLFA  /* Total # weeks not working
END REPEAT
END IF  /* this ends the universe restrictor defined at the top

VAR LAB CGAP1 'Census END-gap1 length, in weeks'
/ CGAP2 'Census END-gap2 length, in weeks'

MISS VAL LOOKB OLFB (LO thru -1)

************************************ LOOP AND VECTOR ************************************
DO IF (WORKALL ne 1)    /* and R didn't work the whole time
& (HIT_1 = 1)    /* only if R hit GAP-1 array questions,
VECTOR WEEK = WEEK1 to WEEK950
DO REPEAT
     / LOOKA = LOOKA1 LOOKA2 LOOKA3 LOOKA4 LOOKA5 LOOKA6 LOOKA7
     / OLFA = OLFA1 OLFA2 OLFA3 OLFA4 OLFA5 OLFA6 OLFA7
     / GST8.W GST9.W
     / GEN8.W GEN9.W

** missing values wont affect WEEKS
MISS VAL LOOKA OLFA GAPA_N LOOKB OLFB (LO thru -1)

********** MISSING DATES
.DO IF SYSMIS(ST.WK) & NVAL(END.WK) = 1  /* Enames with missing START date
.COMPUTE CK_MISS = 1
.LOOP I# = 1 to END.WK
    .IF SYSMIS(WEEK(I#)) WEEK(I#) = -3
.END LOOP
.END IF

.DO IF SYSMIS(END.WK) & NVAL(ST.WK) = 1  /* Enames with missing END date
.COMPUTE CK_MISS = 1
.LOOP I# = ST.WK to (W1BD - 1)
    .IF SYSMIS(WEEK(I#)) WEEK(I#) = -3 /* from existing Start-week# to DOI week number
.END LOOP
.END IF

***** UNEMPLOYED: Fill END-GAP wks looking for work into WEEK array
LOOP I# = (GAPST.W) to (GAPST.W + LOOKA - 1)
COMPUTE WEEK(I#) = 2
END LOOP

***** OLFP: Fill END-GAP wks not looking for work (OLF) into WEEK array
LOOP I# = (GAPST.W + LOOKA) to (GAPST.W + LOOKA + OLFA - 1)
COMPUTE WEEK(I#) = 3
END LOOP
*** WORKING: Fill in the # of weeks worked, across all Emes
LOOP # = ST.WK + 1 to (END.WK) /* fill wks working for Ename 1 into WEEK array
   COMPUTE WEEK(I#) = 1
END LOOP
END REPEAT

************ DOLI GAP
LOOP # = 1 to LOOKB /* fill wks looking during DOLIGAP into WEEK array
   COMPUTE WEEK(I#) = 2
END LOOP
LOOP # = (LOOKB +1) to (LOOKB + OLFB) /* fill wks not looking during DOLIGAP into WEEK array
   COMPUTE WEEK(I#) = 3
END LOOP

COUNT MISSWEEK = WEEK1 to WEEK950(-3)
.DO IF MISSWEEK = 0
.COMPUTE WEMP3 = WORKW
.COUNT WEMPx = WEEK1 to WEEK950(1)
.COUNT WUMP3 = WEEK1 to WEEK950(2)
.COUNT WOLF3 = WEEK1 to WEEK950(3)
.END IF

IF MISSWEEK > 0 WEMP3 = -3
IF MISSWEEK > 0 WUMP3 = -3
IF MISSWEEK > 0 WOLF3 = -3
END IF

**** HAND EDITS
*** Some of these have an End-gap that was amissed
*** by CASES, so the weeks looking and OLF are undefined
DO IF ANY(SERIAL, 2426, 2588, 1661)
.COMPUTE WUMP3 = -3
.COMPUTE WOLF3 = -3
END IF

*******************************************************************************
*** Final Measure of weeks working!!!! ***
*** COMPILe 1, 2, 3 versions of WEMP, WUMP, WOLF ***
*******************************************************************************

DO IF NVAL(WEMP1, WUMP1, WOLF1) = 3
   COMPUTE WORK = WEMP1
   COMPUTE WUMP = WUMP1
   COMPUTE WOLF = WOLF1
END IF

DO IF NVAL(WEMP2, WUMP2, WOLF2) = 3
   COMPUTE WORK = WEMP2
   COMPUTE WUMP = WUMP2
   COMPUTE WOLF = WOLF2
END IF

DO IF NVAL(WEMP3, WUMP3, WOLF3) = 3
   COMPUTE WORK = WEMP3
   COMPUTE WUMP = WUMP3
   COMPUTE WOLF = WOLF3
END IF

FINISH
/*** End of SPSS program creating WORK, WUMP, WOLF for 1997 Mature Women
* SPSS code used to create key variables WORK, WUMP, WOLF for YW cohort

COMPUTE SERIAL = R3495000

NUMERIC BLANK /* create a variable that is blank for all cases

** This selects the Rs who were interviewed in 1997
SELECT IF (R3498800 > -3)

* The individual D-M-Y variables are combined to form a single variable
*** measuring the date. This is done using one of the the SPSS date
*** aggregation functions. It makes adding, subtracting, and otherwise
*** comparing dates much easier.
**
** DOLI
COMPUTE DOLI = DATE.DMY(R3498900, R3499000, R3499100)
PRINT FORMAT DOLI (DATE9)

**
COMPUTE DOI = DATE.DMY(R3498600, R3498700, R3498800)
PRINT FORMAT DOI (DATE9)

** Calculate Weeks Between Interview Dates WBID.W

COMPUTE WBID.RAW = ((CTIME.DAYS(DOI - DOLI)) / 7)
VAR LAB WBID.RAW '# weeks btwn intvs, not rounded off yet (DOI - DOLI)'

COMPUTE WBID = RND((CTIME.DAYS(DOI - DOLI)) / 7)
VAR LAB WBID 'WBID, rounded off'
EXECUTE

****** Employer start and End dates  ******

****** NO REFERENCE DATE CREATED IF ENAME HAD NO ACTIVITY SINCE DOLI
****** NO MISSING DATES WERE IMPUTED (if day is missing the entire
****** date is missing)
******
NUMERIC GAP_1.10 /* creates GAP-1.10 to square the list for DO REPEATs

DO REPEAT
   RBFST_D = R4236000 R4236600 R4237200 R4237800 R4238400 R4239000
   R4239600 R4240200 R4240700 R4241000 R4241300 R4241600 R4241900
   R4242200 R4242500 R4242800 R4243100 R4243400 R4243700 R4244000
   R4244300 R4244600 R4244900 R4245200 R4245500 R4245800 R4246100
   / RBFST_M = R4236100 R4236700 R4237300 R4237900 R4238500 R4239100
   R4239700 R4240200 R4240700 R4241000 R4241300 R4241600 R4241900
   R4242200 R4242500 R4242800 R4243100 R4243400 R4243700 R4244000
   R4244300 R4244600 R4244900 R4245200 R4245500 R4245800 R4246100
   / RBFST_Y = R4236200 R4236800 R4237400 R4238000 R4238600 R4239200
   R4239800 R4240300 R4240800 R4241400 R4241600 R4241800 R4242200
   R4242800 R4243400 R4243700 R4244000 R4244300 R4244600 R4245000
   / REF_ST = RBFST1 RBFST2 RBFST3 RBFST4 RBFST5 RBFST6 RBFST7
   RBFST8 RBFST9 RBFST10 RBFST11
   / RBFEN_D = R4236300 R4236900 R4237500 R4238100 R4238700 R4239300
   R4239900 R4240500 R4241100 R4241700 R4242300 R4242900
   R4243500 R4244100 R4244700 R4245300 R4245900
   / RBFEN_M = R4236400 R4237000 R4237600 R4238200 R4238800 R4239400
   R4240000 R4240600 R4241200 R4241800 R4242400
   R4243000 R4243600 R4244200 R4244800 R4245400
   / RBFEN_Y = R4236500 R4237100 R4237700 R4238300 R4238900 R4239500
   R4240100 R4240700 R4241300 R4241900 R4242500
   / REF_END = RBFEND1 RBFEND2 RBFEND3 RBFEND4 RBFEND5 RBFEND6 RBFEND7
REFEND8  REFEND9  REFEND10  REFEND11
/ CK_RSP_I = R3638000 R3658700 R3678200 R3698200 R3717500 R3736100
R3752600 R3768800 R3784800 R3795500 R3803500
/ ST_DAY = ST1_D ST2_D ST3_D ST4_D ST5_D ST6_D ST7_D
ST8_D ST9_D ST10_D ST11_D
/ ST_MO = ST1_M ST2_M ST3_M ST4_M ST5_M ST6_M ST7_M
ST8_M ST9_M ST10_M ST11_M
/ ST_YEAR = ST1_Y ST2_Y ST3_Y ST4_Y ST5_Y ST6_Y ST7_Y
ST8_Y ST9_Y ST10_Y ST11_Y
/ END_DAY = END1_D END2_D END3_D END4_D END5_D END6_D END7_D
END8_D END9_D END10_D END11_D
/ END_MO = END1_M END2_M END3_M END4_M END5_M END6_M END7_M
END8_M END9_M END10_M END11_M
/ END_YEAR = END1_Y END2_Y END3_Y END4_Y END5_Y END6_Y END7_Y
END8_Y END9_Y END10_Y END11_Y
/ GAP_1 = R3887200 R3887800 R3888400 R3889000 R3889600 R3890200
R3890800 R3891400 R3892000 GAP_1.10 R3892600

** This creates copies of the original D-M-Y variables that will be
** used to create the start and stop dates.
COMPUTE   ST_DAY = REFST_D
COMPUTE   ST_MO = REFST_M
COMPUTE   ST_YEAR = REFST_Y
COMPUTE   END_DAY = REFEND_D
COMPUTE   END_MO = REFEND_M
COMPUTE   END_YEAR = REFEND_Y

* Create dates only if Ename had activity since DOLI, or if an END-GAP exists
DO IF NVAL(CK_RSP_I) ge 1 or NVAL(GAP_1) ge 1

..COMPUTE   REF_ST  = DATE.DMY(Refst_D, Refst_M, Refst_Y)
..COMPUTE   REF_END = DATE.DMY(Refen_D, Refen_M, Refen_Y)

.** Hand edit the End date for these respondents who had
.** the wrong PC system date and thus the wrong REFEND1 date
.DO IF ANY(SERIAL, 0067, 4753, 4760)
.COMPUTE   REFEND1 = DOI
.END IF
END IF
PRINT FORMAT REF_ST REF_END (DATE9)
END REPEAT
EXECUTE

VAR LAB   REFEND1  'End date for Ename 1'
/ REFEND2  'End date for Ename 2'
/ REFEND3  'End date for Ename 3'
/ REFST1   'Start date for Ename 1'
/ REFST2   'Start date for Ename 2'

*=========================================================================
*/*****
*/*****                    PART 1                                          
*/*****                    Preliminary variables                        
*/*****                     
*=========================================================================
**
** GAP_CENS: This universe variable places respondents into 1 of 5
** groups.
** 0 = No gaps at all
** 1 = DOLI-gap only, No work at all
** 2 = DOLI-gap only, worked since DOLI
** 3 = End-gap only
*** 4 = Both kinds of gaps
*******************************************************************************************

**** Calculate DBID: # DAYS Between Interview Dates
COMPUTE DBID = CTIME.DAYS(DOI - DOLI)
VAR LAB DBID ' # DAYS btwn intvs, not rounded off yet (DOI - DOLI)'

****** number of gap questions hit
COUNT NUM_GAP1 = R3887200, R3887800, R3888400, R3889000, R3890200,
                   R3890800, R3891400, R3892000, R3892600 (-2 thru HI)
RECODE NUM_GAP1 (1 thru HI = 1) (0=0) INTO HIT_1B

COMPUTE HIT_1B = 0
IF (R3893000 ge -2) HIT_1B = 1 /* DOLI-GAP (Gap-1B)

*** This is needed because a few cases have an End-gap and a pair
dates, but CK-RSP-1 is blank.

NUMERIC EMP01 to EMP11

IF NVAL(R3638000, R3887200) > 0 EMP01 = 1
IF NVAL(R36358700, R3887800) > 0 EMP02 = 1
IF NVAL(R3678200, R3888400) > 0 EMP03 = 1
IF NVAL(R3698200, R3889000) > 0 EMP04 = 1
IF NVAL(R3717500, R3889600) > 0 EMP05 = 1
IF NVAL(R3736100, R3890200) > 0 EMP06 = 1
IF NVAL(R3752600, R3890800) > 0 EMP07 = 1
IF NVAL(R3768800, R3891400) > 0 EMP08 = 1
IF NVAL(R3784800, R3892000) > 0 EMP09 = 1
IF NVAL(R3795500, GAP_1.10) > 0 EMP10 = 1
IF NVAL(R3803500, R3892600) > 0 EMP11 = 1

COUNT NUM_ACT = EMP01, EMP02, EMP03, EMP04, EMP05, EMP06, EMP07, EMP08, EMP09,
                  EMP10, EMP11(1)
RECODE NUM_ACT (0=0) (1 THRU HI=1) INTO ACTIV
VAR LAB NUM_ACT ' # Enames with activity, or and END-GAP'
    / EMP01 'Ename 01 has activity, or END-GAP, or both'
    / EMP02 'Ename 02 has activity, or END-GAP, or both'
    / ACTIV 'Activity since DOLI, or END-GAP'

IF (HIT_1 = 0) AND (HIT_1B = 0) CENS_GAP = 0
IF (HIT_1B = 1) AND (HIT_1 = 0) AND (NUM_ACT = 0) CENS_GAP = 1
IF (HIT_1B = 1) AND (HIT_1 = 0) AND (NUM_ACT ge 1) CENS_GAP = 2
IF (HIT_1 = 1) AND (HIT_1B = 0) CENS_GAP = 3
IF (HIT_1 = 1) AND (HIT_1B = 1) CENS_GAP = 4

VAR LAB HIT_1B 'R has data in GAP-1B (thus, has a DOLI-GAP)'
    / HIT_1 'R hit 1 or more GAP-1 question (thus, has an END-GAP)'
    / CENS_GAP 'UNIVERSES OF GAPS: using raw Census data & skips'

VAL LAB CENS_GAP 0 'No gap at all' 1 'DOLI-gp, no work'
2 'DOLI-gp, worked' 3 'End-gp only' 4 'Both gaps'

*=========================================================================
*/

******* PART 2

*///// IDENTIFY Rs who worked entire spell btwn interviews
*///// WORKALL = Use WEEKS array to identify Rs who worked the whole time
*///// The variable WORKALL is created using Loops and the WEEK array
*///// variables. It takes into account overlapping periods of work.
***** NOTES:  
***** NO REFERENCE DATES CREATED IF ENAME HAD NO ACTIVITY SINCE DOLI  
***** (if R3638000 and GAP-1B are blank [missing] no date was created)  
***** MISSING DATES WERE NOT IMPUTED. That is, if the 'day' portion  
***** of DD/MM/YYYY is missing the entire date is missing.  
*****  
***********************************************************************

VECTOR WEEK(950) /* create WEEK array variables, one for each week BID  
VECTOR DAY(6650) /* assigns 1=Working to each DAY variable  

DO REPEAT  
   START = REFST1 REFST2 REFST3 REFST4 REFST5 REFST6  
       REFST7 REFST8 REFST9 REFST10 REFST11  
      / END = REPEND1 REPEND2 REPEND3 REPEND4 REPEND5 REPEND6  
       REPEND7 REPEND8 REPEND9 REPEND10 REPEND11  
      / WORKW = WORK1 WORK2 WORK3 WORK4 WORK5 WORK6 WORK7 WORK8  
          WORK9 WORK10 WORK11  
      / WORKD = WORK1 WORK2 WORK3 WORK4 WORK5 WORK6 WORK7  
          WORK8 WORK9 WORK10 WORK11  
      / DOLI.D = DOLI.1 to DOLI.11  
   IF (END > DOI) END = DOI  
   IF NVAL(START, END) = 1 MISSDATE = 1 /* marks cases with a missing job date

   COMPUTE WORKD = CTIME.DAYS(END - START)  
   ** Convert employer dates to # DAYS after DOLI  
   COMPUTE ST.D = (CTIME.DAYS(START - DOLI)) + 1  
   COMPUTE END.D = (CTIME.DAYS(END - DOLI))  
   COMPUTE WORKD = CTIME.DAYS(END - START)  
   ** Loops for filling in 1=working  
   DO IF NVAL(ST.D, END.D) = 2  
      .LOOP DAY# = ST.D to END.D  
      .COMPUTE DAY(DAY#) = 1  
   END LOOP  
END IF  

** Convert employer dates to a week number (I#) with respect to the DOLI  
** week#. 3.49 is subtracted to create ST.W to reduce the effects of rounding.  
** But 5 cases are still misclassified so their ST.W value will be  
** hand-edited later.  
   COMPUTE ST.W = RND((CTIME.DAYS(START - DOLI) - 3.49) / 7) + 1  
   COMPUTE END.W = RND(CTIME.DAYS(END - DOLI) / 7)  
   COMPUTE WORKW = RND(CTIME.DAYS(END - START) / 7) /* number of weeks working  

* HAND-EDIT data for selected cases  
*  
** The DOLI-Gap is actually 4, 5, or 6 days so there is a gap of 1 week, rounded up. This is consistent with what CASES found and the values in R3893000 (Gap-1B). The respondents affected are SERIAL = 1507, 1831, 0985)
DO IF (CTIME.DAYS(START - DOLI) > 3) & (CTIME.DAYS(START - DOLI) < 7)
    .COMPUTE ST.W = 2
END IF
IF NVAL(START, END) = 1 WORKW = -3
IF NVAL(START, END) ge 1 MISS_ST = 0
IF NVAL(END) = 1 & SYSMIS(START) MISS_ST = 1

*** Loops for filling in 1=working
DO IF NVAL(START, END) = 2
   .LOOP WRK# = ST.W to END.W
   .COMPUTE WEEK(WRK#) = 1
END LOOP
END IF
END REPEAT

** -- HAND-EDIT ---
** End-date is 3 days before DOI, but CASES found no END-gap
** so the WEEK109=1, and END2.W = 109 instead of 108
DO IF (SERIAL = 2188)
   .COMPUTE END2.W = 109
   .COMPUTE WEEK109 = 1 /* last week in array is 'worked'
   .COMPUTE WORK2 = 109 /* add 1 to # weeks worked for ENAME2
   .RECODE DAY759, DAY760, DAY761 (SYSMIS=1) /* worked on these days
END IF

** End2-Date is 5 days before DOI, but CASES found no end-gap2,
** so WEEK110 = 1, and DAY773 to DAY767 = 1
DO IF (SERIAL = 0863)
   .COMPUTE END2.W = 109
   .COMPUTE WEEK110 = 1 /* make last week in array a worked week
   .COMPUTE WORK2 = 12 /* add 1 to # weeks worked for ENAME2
   .RECODE DAY763, DAY764, DAY765, DAY766, DAY767 (SYSMIS=1) /* worked on these days
END IF

**************
** CREATE THE # DAYS WORKING and # WEEKS WORKING (WORKW)
COUNT WORKW.N = WEEK1 to WEEK350(1) /* # of weeks working
COUNT WORKD.N = DAY1 TO DAY6650(1) /* # of days working
COMPUTE WORKRAW = (WORKD.N / 7) /* # weeks working, not rounded
COMPUTE WORKW = RND(WORKD.N / 7) /* # weeks working, using DAYS ARRAY

******** Create WORKALL ********
** There are 7 cases with a gap of 3, 4, or 5 days between
** the end of 1 Bname and the start of the next. None of these
** has data in Gap-1 array, so there is no end-gap info
** available. Thus the R worked the whole time.
COMPUTE WORKALL = 0 /* default value
IF ABS(WORKD.N - DBID) < 3.5 WORKALL = 1

DO IF ANY(SERIAL, 0130, 0350, 1598, 1852, 1881, 4710, 4545)
.COMPUTE WORKALL = 1
.COMPUTE CENS_GAP = 0
END IF
********* This R worked the whole time, even though a date is missing
IF (SERIAL = 0367) WORKALL = 1 /** Enames 2 and 5 DEFINITELY overlapped
IF (SERIAL = 0367) WORK = WBID
IF (SERIAL = 0367) R3887800 = BLANK /* blank because there is no gap

DO IF WORKALL ne 1
  .IF MISSDATE = 1 WORK = -3
END IF

VAR LAB WORKALL 'Rs worked entire spell between interviews'
  / WORKW.N '# WEEKS working, from WEEKS array'
  / WORKD.N '# of days working'
  / WORKW '# weeks working, using DAYS ARRAY'
  / WORK1 '# Weeks working for ENAME 1'
  / WORK2 '# Weeks working for ENAME 2'
  / WORK3 '# Weeks working for ENAME 3'
  / WORK4 '# Weeks working for ENAME 4'
  / MISS_ST 'A start date is missing (but END is ok)'

*******************************************************************************
* Rs working entire spell
** Assign WEMP1, WUMP1, and WOLF1 to respondents who worked
** the entire spell, and those who have a missing date
** and thus leaves the weeks-worked undefined.
**
** WORKED ENTIRE SPELL
**
*******************************************************************************

DO IF (WORKALL = 1)
  .COMPUTE WEMP1 = WORKW /* # weeks working computed from DAYS array
  .COMPUTE WUMP1 = 0
  .COMPUTE WOLF1 = 0
END IF

VAR LAB WEMP1 'UNIVERSE: Rs who worked the entire spell (=WBID)'
  WUMP1 'UNIVERSE: Rs who worked the entire spell (=0)'
  WOLF1 'UNIVERSE: Rs who worked the entire spell (=0)'

*******************************************************************************
*/////////////////////////////////////////////////////////////////////////////////////////////////////////
*/////////////////////////////////////////////////////////////////////////////////////////////////////////
** PART 2 DOLIGAP gap exists
**
** Rs who did no work at all since DOLI, and those whose only
** gap in employment is from the DOLI to the earliest START DATE
** after the DOLI. (In other words, people who were not working
** on the DOLI, but who were working on the DOI have a DOLIGAP
** only).
**
DO IF (HIT_1B = 1) & (WORKALL ne 1) /* R did not work the whole time
  COMPUTE DOLIGP0 = CTIME.DAYS(DOI - DOLI) /* This is the DOLIGAP for Rs who
  /* didn't work at all
  DO REPEAT
    START = REFST1 REFST2 REFST3 REFST4 REFST5 REFST6
    REFST7 REFST8 REFST9 REFST10 REFST11
    / END = REFEND1 REFEND2 REFEND3 REFEND4 REFEND5 REFEND6
    REFEND7 REFEND8 REFEND9 REFEND10 REFEND11
    / DOLI_GAP = DOLIGP1 to DOLIGP11
DO IF Nval(START, END) > 0  /** if there is at least one date
.COMPUTE DOLI_GAP = CTIME.DAYS(START - DOLI)
.IF SYSMIS(START) DOLI_GAP = -3
.IF SYSMIS(END) DOLIGAP0 = -3
END IF
END REPEAT

*** Find the smallest gap between DOLI and employer start dates
*** If a start date was missing then the shortest gap can't be determined
*** because the missing start-date might have been earlier than the
*** other Start-date or dates.

.COMPUTE MINGAP = MIN(DOLIGAP0, DOLIGAP1, DOLIGAP2, DOLIGAP3, DOLIGAP4, DOLIGAP5,
                      DOLIGAP6, DOLIGAP7, DOLIGAP8, DOLIGAP9, DOLIGAP10, DOLIGAP11)

.MISS VAL MINGAP (-3) /* if any Start date is missing, DOLIGAP is missing

.COMPUTE DOLIGAP = RND(MINGAP / 7)

** ---------------------
** HAND EDIT: These Rs had a missing START date, but a closer look
** shows that the DOLIGAP could be determined -- it's = R3893200
IF SERIAL = 0895 DOLIGAP = R3893200
IF SERIAL = 2276 DOLIGAP = R3893200
IF SERIAL = 1894 R3893000 = BLANK /* R worked whole time, has no DOLIGAP
IF SERIAL = 1894 DOLIGAP = 0

.COMPUTE GAP_1B = R3893000  /** Gap-1b: looking for ALL, SOME, or NONE
** weeks?
.COMPUTE GAP_2B = R3893100  /** Gap-2b: # weeks looking for work

.IF GAP_1B = 1 LOOKB = DOLIGAP  /** looked for work "ALL" weeks in DOLI-GAP
.IF GAP_1B = 1 OLFB = 0  /** was not looking for 0 weeks

.IF GAP_1B = 2 LOOKB = GAP_2B  /* looked "SOME" weeks, # wks shown in GAP-2B
.IF GAP_1B = 2 OLFB = R3893200  /* # weeks R was not looking (shown in INTER-
                        CHK)

.IF GAP_1B = 3 LOOKB = 0  /** looked for work "NONE" weeks in DOLI-GAP
.IF GAP_1B = 3 OLFB = DOLIGAP  /** was not looking for entire gap (OLF)

** missing values
.IF (GAP_1B < 0) or (GAP_2B < 0) LOOKB = -3  /* will be declared missing
.IF (GAP_1B < 0) or (GAP_2B < 0) OLFB = -3  /* will be declared missing

.IF (MINGAP = -3) LOOKB = -3
.IF (MINGAP = -3) OLFB = -3
.IF (HIT_1B = 1) & SYSMIS(DOLIGAP) LOOKB = -3
.IF (HIT_1B = 1) & SYSMIS(DOLIGAP) OLFB = -3
END IF
EXECUTE

*******************************************************************************
*** Assign WEMP2, WUMP2, WOLF2
*** R's who have only a DOLI-GAP
*******************************************************************************

DO IF (HIT_1B = 1) & (HIT_1 = 0)  /* DOLI GAP only
.COMPUTE WEMP2 = WORKW
.COMPUTE WUMP2 = LOOKB
.COMPUTE WOLF2 = OLFB
END IF
VAR LAB WEMP2 'UNIVERSE: DOLI->START gap only (Currtly working)'
WUMP2 'UNIVERSE: DOLI->START gap only (Currtly working)'
WOLF2 'UNIVERSE: DOLI->START gap only (Currtly working)'

*****************************************************************************
**  Hand edit data for Rs with Gaps and Work discrepancies  **
**  -----------------------------------------------------------------------  **

** 2 cases have dates to compute WEMP1, but there is no
**  gaps data, so WEMP1 or WOLF1 are undefined.
DO IF ANY(SERIAL, 3160, 4096)
  .COMPUTE WEMP1 = WORKW  /* # weeks working computed from DAYS array
  .COMPUTE WUMP1 = -3
  .COMPUTE WOLF1 = -3
END IF

** 2 Cases have no gap data but Job dates are missing,
**  so the weeks looking and OLF are undefined.
DO IF ANY(SERIAL, 2845, 1278)
  .COMPUTE WEMP1 = -3
  .COMPUTE WUMP1 = -3
  .COMPUTE WOLF1 = -3
END IF

VAR LAB WEMP1  '# weeks wrking, WORKALL = 1'
  / WUMP1  '# Weeks looking, WORKALL = 1'
  / WOLF1  '# Weeks not looking, WORKALL = 1'
  / DOLIGAP  '# DOLI-GAP ends this # weeks after DOLI'
  / WEMP2  '#wks working, DOLI-gp only'
  / WUMP2  '#wks looking, DOLI-gp only'
  / WOLF2  '#wks OLF, DOLI-gp only'

*****************************************************************************
*******  PART 4  END GAPs  *******
*****  Determine END-GAP length for each Ename  *****

*  These identifies the Start-Dt and End-Dt of each gap occurring at the
  of each Ename. The number assigned to the start and end of each gap is
  the number of weeks after the DOLI. Thus, if GST1.W = 20 it means that
  the gap after Ename 1 began 20 weeks after the DOLI. If GEND1.W = 35
  it means that the first gap ended 35 weeks after the DOLI. Therefore
  the duration of the gap was 15 weeks.
*****************************************************************************

*******  UNIVERSE RESTRICTORS  
DO IF (WORKALL ne 1)  /** Skips Rs who definitely worked the entire spell.
  /* Only Rs who had a gap, or who weren't defined as
  /** working the whole time because of missing dates
  /* are going into this section.
  & (HIT_1 = 1)  /* select Rs who have data in GAP-1 array

.*****  Ename in first column only  (EMP 01)
.DO IF NVAL(EMP01)=1 & NVAL(EMP02 to EMP11) = 0
.COMPUTE GST1.W = END1.W + 1
.COMPUTE GEND1.W = WBID
.END IF
.
*** Blank after 2
.DO IF NVAL(EMP02) = 1 & NVAL(EMP03 to EMP11) = 0
.COMPUTE GST2.W = END2.W + 1
.COMPUTE GEND2.W = WBID
.END IF

*** Blank after 3
.DO IF NVAL(EMP03) = 1 & NVAL(EMP04 to EMP11) = 0
.COMPUTE GST3.W = END3.W + 1
.COMPUTE GEND3.W = WBID
.END IF

*** Blank after Column 4
.DO IF NVAL(EMP04) = 1 & NVAL(EMP05 to EMP11) = 0
.COMPUTE GST4.W = END4.W + 1
.COMPUTE GEND4.W = WBID
.END IF

*** Blank after Column 5
.DO IF NVAL(EMP05) = 1 & NVAL(EMP06 to EMP11) = 0
.COMPUTE GST5.W = END5.W + 1
.COMPUTE GEND5.W = WBID
.END IF

*** Blank after Column 6
.DO IF NVAL(EMP06) = 1 & NVAL(EMP07 to EMP11) = 0
.COMPUTE GST6.W = END6.W + 1
.COMPUTE GEND6.W = WBID
.END IF

*** Blank after Column 7
.DO IF NVAL(EMP07) = 1 & NVAL(EMP08 to EMP11) = 0
.COMPUTE GST7.W = END7.W + 1
.COMPUTE GEND7.W = WBID
.END IF

*** Blank after Column 8
.DO IF NVAL(EMP08) = 1 & NVAL(EMP09 to EMP11) = 0
.COMPUTE GST8.W = END8.W + 1
.COMPUTE GEND8.W = WBID
.END IF

*** Blank after 9
.DO IF NVAL(EMP09) = 1 & NVAL(EMP10, EMP11) = 0
.COMPUTE GST9.W = END9.W + 1
.COMPUTE GEND9.W = WBID
.END IF

*** Blank after 10
.DO IF NVAL(EMP10) = 1 & NVAL(EMP11) = 0
.COMPUTE GST10.W = END10.W + 1
.COMPUTE GEND10.W = WBID
.END IF

*** Name in Column 11
.DO IF NVAL(EMP11) = 1 & NVAL(EMP01 to EMP10) = 0
.COMPUTE GST11.W = END11.W + 1
.COMPUTE GEND11.W = WBID
.END IF
*************** // adjacent ENAMES ***************
*** 1,2 adjacent -- Enames in column 1 & 2
DO IF NVAL(EMP01, EMP02) = 2
   COMPUTE GST1.W = END1.W + 1
   COMPUTE GEND1.W = ST2.W
END IF

*** 2,3 adjacent -- Enames in column 2 & 3
DO IF NVAL(EMP02, EMP03) = 2
   COMPUTE GST2.W = END2.W + 1
   COMPUTE GEND2.W = ST3.W
END IF

*** 3,4 adjacent -- Enames in column 3 & 4
DO IF NVAL(EMP03, EMP04) = 2
   COMPUTE GST3.W = END3.W + 1
   COMPUTE GEND3.W = ST4.W
END IF

*** 4,5 adjacent -- Enames in column 4 & 5
DO IF NVAL(EMP04, EMP05) = 2
   COMPUTE GST4.W = END4.W + 1
   COMPUTE GEND4.W = ST5.W
END IF

*** 5,6 adjacent -- Enames in column 5 & 6
DO IF NVAL(EMP05, EMP06) = 2
   COMPUTE GST5.W = END5.W + 1
   COMPUTE GEND5.W = ST6.W
END IF

*** 6,7 adjacent -- Enames in column 6 & 7
DO IF NVAL(EMP06, EMP07) = 2
   COMPUTE GST6.W = END6.W + 1
   COMPUTE GEND6.W = ST7.W
END IF

*** 7,8 adjacent -- Enames in column 7 & 8
DO IF NVAL(EMP07, EMP08) = 2
   COMPUTE GST7.W = END7.W + 1
   COMPUTE GEND7.W = ST8.W
END IF

*** 8,9 adjacent -- Enames in column 8 & 9
DO IF NVAL(EMP08, EMP09) = 2
   COMPUTE GST8.W = END8.W + 1
   COMPUTE GEND8.W = ST9.W
END IF

*** 9,10 adjacent -- Enames in column 9 & 10
DO IF NVAL(EMP09, EMP10) = 2
   COMPUTE GST9.W = END9.W + 1
   COMPUTE GEND9.W = ST10.W
END IF

*** 10,11 adjacent -- Enames in column 10 & 11
DO IF NVAL(EMP10, EMP11) = 2
   COMPUTE GST10.W = END10.W + 1
   COMPUTE GEND10.W = ST11.W
END IF
*** 11 -- Ename in column 11
DO IF NVAL(EMP11) = 1
COMPUTE GST11.W = END11.W + 1
COMPUTE GEND11.W = WBID
END IF

**** // EMP Rosters with blank columns \\\n*** Column 1 & 3
DO IF NVAL(EMP01, EMP03)=2 & SYSMIS(EMP02)
COMPUTE GST1.W = END1.W + 1
COMPUTE GEND1.W = ST3.W
END IF

*** Column 1 & 4
DO IF NVAL(EMP01, EMP04)=2 & NVAL(EMP02, EMP03)=0
COMPUTE GST1.W = END1.W + 1
COMPUTE GEND1.W = ST4.W
END IF

*** Column 1 & 5
DO IF NVAL(EMP01, EMP05)=2 & NVAL(EMP02 to EMP04)=0
COMPUTE GST1.W = END1.W + 1
COMPUTE GEND1.W = ST5.W
END IF

*** Column 1 & 6
DO IF NVAL(EMP01, EMP06)=2 & NVAL(EMP02 to EMP05)=0
COMPUTE GST1.W = END1.W + 1
COMPUTE GEND1.W = ST6.W
END IF

*** Column 1 & 7
DO IF NVAL(EMP01, EMP07)=2 & NVAL(EMP02 to EMP06)=0
COMPUTE GST1.W = END1.W + 1
COMPUTE GEND1.W = ST7.W
END IF

*** Column 1 & 8
DO IF NVAL(EMP01, EMP08)=2 & NVAL(EMP02 to EMP07)=0
COMPUTE GST1.W = END1.W + 1
COMPUTE GEND1.W = ST8.W
END IF

*** Column 1 & 9
DO IF NVAL(EMP01, EMP09)=2 & NVAL(EMP02 to EMP08)=0
COMPUTE GST1.W = END1.W + 1
COMPUTE GEND1.W = ST9.W
END IF

*** Column 1 & 10
DO IF NVAL(EMP01, EMP10)=2 & NVAL(EMP02 to EMP09)=0
COMPUTE GST1.W = END1.W + 1
COMPUTE GEND1.W = ST10.W
END IF

*** Column 2 & 4
DO IF NVAL(EMP02, EMP04)=2 & NVAL(EMP03)=0
COMPUTE GST2.W = END2.W + 1
COMPUTE GEND2.W = ST4.W
END IF
*** Column 2 & 5  
DO IF NVAL(EMP02, EMP05)=2 & NVAL(EMP03 to EMP04)=0  
   COMPUTE GST2.W = END2.W + 1  
   COMPUTE GEND2.W = ST5.W  
END IF  

*** Column 2 & 6  
DO IF NVAL(EMP02, EMP06)=2 & NVAL(EMP03 to EMP05)=0  
   COMPUTE GST2.W = END2.W + 1  
   COMPUTE GEND2.W = ST6.W  
END IF  

*** Column 2 & 7  
DO IF NVAL(EMP02, EMP07)=2 & NVAL(EMP03 to EMP06)=0  
   COMPUTE GST2.W = END2.W + 1  
   COMPUTE GEND2.W = ST7.W  
END IF  

*** Column 2 & 8  
DO IF NVAL(EMP02, EMP08)=2 & NVAL(EMP03 to EMP07)=0  
   COMPUTE GST2.W = END2.W + 1  
   COMPUTE GEND2.W = ST8.W  
END IF  

*** Column 2 & 9  
DO IF NVAL(EMP02, EMP09)=2 & NVAL(EMP03 to EMP08)=0  
   COMPUTE GST2.W = END2.W + 1  
   COMPUTE GEND2.W = ST9.W  
END IF  

*** Column 3 & 5  
DO IF NVAL(EMP03, EMP05)=2 & NVAL(EMP04)=0  
   COMPUTE GST3.W = END3.W + 1  
   COMPUTE GEND3.W = ST5.W  
END IF  

*** Column 3 & 6  
DO IF NVAL(EMP03, EMP06)=2 & NVAL(EMP04 to EMP05)=0  
   COMPUTE GST3.W = END3.W + 1  
   COMPUTE GEND3.W = ST6.W  
END IF  

*** Column 3 & 7  
DO IF NVAL(EMP03, EMP07)=2 & NVAL(EMP04 to EMP06)=0  
   COMPUTE GST3.W = END3.W + 1  
   COMPUTE GEND3.W = ST7.W  
END IF  

*** Column 3 & 8  
DO IF NVAL(EMP03, EMP08)=2 & NVAL(EMP04 to EMP07)=0  
   COMPUTE GST3.W = END3.W + 1  
   COMPUTE GEND3.W = ST8.W  
END IF  

*** Column 3 & 9  
DO IF NVAL(EMP03, EMP09)=2 & NVAL(EMP04 to EMP08)=0  
   COMPUTE GST3.W = END3.W + 1  
   COMPUTE GEND3.W = ST9.W  
END IF
*** Column 4 & 6
DO IF NVAL(EMP04, EMP05)=2 & NVAL(EMP05)=0
COMPUTE GST4.W = END4.W + 1
END IF

*** Column 4 & 7
DO IF NVAL(EMP04, EMP07)=2 & NVAL(EMP05 to EMP06)=0
COMPUTE GST4.W = END4.W + 1
COMPUTE GEND4.W = ST7.W
END IF

*** Column 4 & 8
DO IF NVAL(EMP04, EMP08)=2 & NVAL(EMP05 to EMP07)=0
COMPUTE GST4.W = END4.W + 1
COMPUTE GEND4.W = ST8.W
END IF

*** Column 4 & 9
DO IF NVAL(EMP04, EMP09)=2 & NVAL(EMP05 to EMP08)=0
COMPUTE GST4.W = END4.W + 1
END IF

*** Column 5 & 7
DO IF NVAL(EMP05, EMP07)=2 & NVAL(EMP06)=0
COMPUTE GST5.W = END5.W + 1
COMPUTE GEND5.W = ST7.W
END IF

*** Column 5 & 8
DO IF NVAL(EMP05, EMP08)=2 & NVAL(EMP06, EMP07)=0
COMPUTE GST5.W = END5.W + 1
COMPUTE GEND5.W = ST8.W
END IF

*** Column 5 & 9
DO IF NVAL(EMP05, EMP09)=2 & NVAL(EMP06 to EMP08)=0
COMPUTE GST5.W = END5.W + 1
COMPUTE GEND5.W = ST9.W
END IF

*** Column 6 & 8
DO IF NVAL(EMP06, EMP08)=2 & NVAL(EMP07)=0
COMPUTE GST6.W = END6.W + 1
COMPUTE GEND6.W = ST8.W
END IF

*** Column 6 & 9
DO IF NVAL(EMP06, EMP09)=2 & NVAL(EMP07 to EMP08)=0
COMPUTE GST6.W = END6.W + 1
END IF

*** Column 7 & 9
DO IF NVAL(EMP07, EMP09)=2 & NVAL(EMP08)=0
COMPUTE GST7.W = END7.W + 1
COMPUTE GEND7.W = ST9.W
END IF
*** Column 7 & 10
DO IF NVAL(EMP07, EMP10)=2 & NVAL(EMP08 to EMP09)=0
COMPUTE GST7.W = END7.W + 1
COMPUTE GEND7.W = ST10.W
END IF
END IF

****** HAND EDIT GST.W & GEND.W DATA  ***********************
***** Hand edit End-Gap week data for Ename 1
***** These cases need special attention because
***** the order of job dates didn't always follow
***** the order in which jobs were listed. For example,
***** the End1 date was after the ST2 date for these
***** Rs, so the GAP1 length had to be computed by
***** looking at the start date of a later job, or
***** sometimes looking at the DOI.

DO REPEAT
CASEID = 4996  1649  2586  1665  0919  1243  3905
   4724  0926  4026  4801  2069  1981
   0953  3753  3699  0285  4954  0230

IF (SERIAL = CASEID)  GST1.W = END1.W + 1
IF (SERIAL = CASEID)  GEND1.W = ST_WK
IF (SERIAL = CASEID)  HANDED = 1
END REPEAT

****** Hand edit End-Gap2 (GST2.W, GEND2.W) week data for Ename 2
DO REPEAT
CASEID = 2831  1118  1289  3930  1898  3674  1738  0786  2917

IF (SERIAL = CASEID)  GST2.W = END2.W + 1
IF (SERIAL = CASEID)  GEND2.W = ST_WK
IF (SERIAL = CASEID)  HANDED = 2
END REPEAT

****** Other hand edits
IF (SERIAL = 3891)  GST5.W = END5.W + 1 /* END5, ST4 both in Sep, but ST4
IF (SERIAL = 3891)  GEND5.W = ST4.W /* is missing, so GEND5.W = missing

IF (SERIAL = 0786)  GST4.W = END4.W + 1
IF (SERIAL = 0786)  GEND4.W = ST3.W

IF (SERIAL = 0895)  GST6.W = END6.W + 1
IF (SERIAL = 0895)  GEND6.W = ST5.W

IF (SERIAL = 3891)  GST5.W = END5.W + 1
IF (SERIAL = 3891)  GEND5.W = ST4.W /* ST4 is missing, so GAP5.N = -3

DO IF (SERIAL = 3266) /* Enames were out of order
  COMPUTE GST5.W = END5.W + 1
  COMPUTE GEND5.W = ST8.W
  COMPUTE GST8.W = END8.W + 1
  COMPUTE GEND8.W = ST7.W
END IF
****  COMPUTE # WEEKS IN EACH END-GAP  ****
**  BLANK Gap-dates if Census didn't find an End-Gap.
**  For example, if GAP-2-ARR-02 is blank then GST2.W,
**  GEND2.W, and GAP2.N are blanked out.  This is because there
**  is no UMP or OLP data available if (a) there was
**  no End-gap or (b) there was actually a gap (as judged from
**  Ename reference dates) but the CAPI program missed it and
**  thus skipped questions GAP-1, GAP-2, and INTERCK.

NUMERIC  GAP_2.9 / GAP_2.10 / GAP_2.11 /* square roster for GAP-2-ARR
NUMERIC  INTC.9 / INTC.10 / INTC.11 /* square roster for INTER-CK-ARR

***  some hand edits of data, only if dates are there and correct
IF (SERIAL=2244)  R3887400 = 0 /* END1 = DOI, so Gap-length=0
IF (SERIAL=0382)  R3887400 = 0 /* END1 > ST2, so no gap (Gap-length=0)
IF (SERIAL=0551)  R3888600 = 38 /* the gap is not 17 weeks, it is 38
IF (SERIAL=2713)  R3887400 = 0 /* END1 > ST2, so no gap (Gap-length=0)
IF (SERIAL=2713)  R3888600 = 0 /* END3 = DOI, so no gap (Gap-length=0)
IF (SERIAL=3608)  R3889200 = 0 /* END4 = DOI, so no gap (Gap-length=0)
IF (SERIAL=3120)  R3889200 = 0 /* END4 = DOI, so no gap (Gap-length=0)

DO IF (WORKALL ne 1) & (CENS_GAP ge 3)
DO REPEAT
  GAP_1 = R3887200 R3887800 R3888400 R3889000 R3889600 R3890200
          R3890800 R3891400 R3892000 GAP_1.10 R3892600
  / GAP_2 = R3887300 R3887900 R3888500 R3889100 R3889700 R3890300
          R3890900 R3891500 GAP_2.9 GAP_2.10 GAP_2.11
  / Inter_ck = R3887400 R3888000 R3888600 R3889200 R3889800 R3890400
             R3891000 R3891600 INTC.9 INTC.10 INTC.11
  / GAPCENS = CGAP1 to CGAP11

  IF SYSMIS(GAP_1)  GAP_ST = BLANK
  IF SYSMIS(GAP_1)  GAP_END = BLANK

  COMPUTE GAP_N = (GAP_END - GAP_ST) + 1 /* # of weeks in END-gap

  MISS VAL GAP_2  INTER CK (LO thru -1)
  COMPUTE GAPCENS = GAP_2 + INTER CK /* Total # weeks not working

  MISS VAL GAP_2  INTER CK()

  IF NVAL(GAP_ST) = 1 & SYSMIS(GAP_END)  GAP_N = -3
  IF NVAL(GAP_ST) = 1 & SYSMIS(GAP_END)  GAP_END = -3

END REPEAT
END IF

**********  Hand edits  **********
***  After reviewing each case it was determined that
***  the following Gap-length values are correct.
IF (SERIAL = 0916)  GAP4.N = 0 /* END4 = DOI
IF (SERIAL = 0018)  GAP4.N = 0 /* END4 = DOI, gap length = 0
IF (SERIAL = 0367)  GAP2.N = 0 /* R worked the whole time
IF (SERIAL = 3891)  GAP1.N = 0 /* Job 1 subsumed by job 4, no End-gap
IF (SERIAL = 3891)  GAP6.N = 0 /* END6 = DOI (no gap)
IF (SERIAL = 1649)  GAP2.N = -3 /* although probably = 0 if Start-Day=15
IF (SERIAL = 3120) GAP1.N = -3 /* although probably = 0 if Start-Day=15
IF (SERIAL = 4156) GAP3.N = 6
IF (SERIAL = 1302) GAP3.N = 11
IF (SERIAL = 3727) GAP3.N = 8
IF (SERIAL = 3727) GAP4.N = 3
IF (SERIAL = 1981) GAP1.N = 13
IF (SERIAL = 3019) GAP1.N = 13
IF (SERIAL = 3019) GAP2.N = 11
IF (SERIAL = 3789) GAP1.N = 9
IF (SERIAL = 3789) GAP3.N = 4
IF (SERIAL = 0551) GAP4.N = 10

*****************************************************************************
***** PART 4.B -- END-GAP EXISTS *****
***** Creates LOOKA, OLFA, and END-GAP length variables *****
*****
** This recodes GAP-1, GAP-2, INTER-CK so they can be **
** used in LOOP and VECTOR commands to construct **
** the weeks variables. **
**
** If GAP-1 = 1 (all weeks looking): **
**
** If GAP-1 = 2 (some weeks looking):
**
** If GAP-1 = 3 (no weeks looking):
**
*****************************************************************************

DO IF (WORKALL ne 1) /* and R didn't work the whole time
 & (HIT_1 = 1) /* only if R hit GAP-1 array questions,

DO REPEAT

GAP_1 = R3887200 R3887800 R3888400 R3889000 R3889600 R3890200
       R3890800 R3891400 R3892000 GAP_1.10 R3892600
       / GAP_2 = R3887300 R3887900 R3888500 R3889100 R3889700 R3890300
       R3890900 R3891500 GAP_2.9 GAP_2.10 GAP_2.11
       / Inter_ck = R3887400 R3888000 R3888600 R3889200 R3889800 R3890400
              R3891000 R3891600 INTC.9 INTC.10 INTC.11
       / GAPCENS = CGAP1 CGAP2 CGAP3 CGAP4 CGAP5 CGAP6 CGAP7 CGAP8
              CGAP9 CGAP10 CGAP11
       / LOOKA = LOOKA1 to LOOKA11
       / OLFA = OLFA1 to OLFA11

DO IF (GAP_1 = 1) /* looked for all weeks during gap (all weeks UMP)
.COMPUTE LOOKA = GAP_N
.COMPUTE OLFA = 0
END IF

DO IF (GAP_1 = 2) /* looked for work some of weeks in gap, mix of UMP & OLF
.COMPUTE LOOKA = GAP_2
.COMPUTE OLFA = INTER CK
END IF

DO IF (GAP_1 = 3) /* didn't look at all during gap (all weeks OLF)
.COMPUTE LOOKA = 0
.COMPUTE OLFA = INTER_CK
END IF
DO IF (GAP_1 < 0)  
  /* Don't Know or Refuse to say # weeks looking
  .COMPUTE LOOKA = -3
  .COMPUTE OLFA = -3
END IF

DO IF (GAP_2 < 0)  
  /* Don't Know or Refuse to say # weeks looking
  .COMPUTE LOOKA = -3
  .COMPUTE OLFA = -3
END IF

RECODE LOOKA OLFA (LO thru -1 = SYSMIS)  
  /* If DK #wks looking
   /* then LOOKA is missing
END REPEAT
END IF
  /* this ends the universe restrictor defined at the top

IF (SERIAL = 5091) OLFA6 = -3  
  /* GAP-2-ARR-03 = 28, but the gap is only 2 weeks
IF (SERIAL = 5091) LOOKA6 = -3  
  /* GAP-2-ARR-03 = 28, but the gap is only 2 weeks
IF (SERIAL = 0895) OLFA6 = 2  
  /* END6 < ST5 by 2 weeks, and R3890200 = 3

VAR LAB CGAP1 'Census END-gap1 length, in weeks'
/ CGAP2 'Census END-gap2 length, in weeks'

MISS VAL LOOKB OLFB (LO thru -1)

******************** LOOP AND VECTOR ***********************
DO IF (WORKALL ne 1) & (HIT_1 = 1)  
  /* and R didn't work the whole time
   /* only if R hit GAP-1 array questions,
VECTOR WEEK = WEEK1 to WEEK950
END REPEAT

/ LOOKA = LOOKA1 LOOKA2 LOOKA3 LOOKA4 LOOKA5 LOOKA6 LOOKA7
  LOOKA8 LOOKA9 LOOKA10 LOOKA11
/ OLFA = OLFA1 OLFA2 OLFA3 OLFA4 OLFA5 OLFA6 OLFA7
  OLFA8 OLFA9 OLFA10 OLFA11

** missing values wont affect WEEKS
MISS VAL LOOKA OLFA GAPA_N LOOKB OLFB (LO thru -1)

********** MISSING DATES
.DO IF SYSMSIS(ST.WK) & NVAL(END.WK) = 1  
  /* Enames with missing START date
.COMPUTE CK_MISS = 1
.LOOP I# = 1 to END.WK
.IF SYSMSIS(WEEK(I#)) WEEK(I#) = -3
.END LOOP
.END IF

.DO IF SYSMSIS(END.WK) & NVAL(ST.WK) = 1  
  /* Enames with missing END date
.COMPUTE CK_MISS = 1
.LOOP I# = ST.WK to (WBID - 1)
.IF SYSMIS(WEEK(I#))  WEEK(I#)= -3  /* from existing Start-week# to DOI week number
.END LOOP
.END IF

****** UNEMPLOYED: Fill END-GAP wks lookng for work into WEEK array
LOOP I# = (GAPST.W) to (GAPST.W + LOOKA - 1)
COMPUTE   WEEK(I#) = 2
END LOOP

***** OLF: Fill END-GAP wks not lookng for work (OLF) into WEEK array
LOOP I# = (GAPST.W + LOOKA) to (GAPST.W + LOOKA + OLFA - 1)
COMPUTE   WEEK(I#) = 3
END LOOP

*** WORKING: Fill in the # of weeks worked, across all Enames
LOOP I# = ST.WK + 1 to (END.WK)   /* fill wks working for Ename 1 into WEEK array
COMPUTE   WEEK(I#) = 1
END LOOP
END REPEAT

********** DOLI GAP
MISS VAL  LOOKB OLFB (LO thru -1)
LOOP I# = 1 to LOOKB  /* fill wks looking during DOLIGAP into WEEK array
COMPUTE   WEEK(I#) = 2
END LOOP

LOOP I# = (LOOKB +1) to (LOOKB + OLFB)  /* fill wks not looking during DOLIGAP into
WEEK array
COMPUTE   WEEK(I#) = 3
END LOOP

COUNT  MISSWEEK = WEEK1 to WEEK950(-3)
.DO IF  MISSWEEK = 0
.COMPUTE  WEMP3 = WORKW
 .count  WEMPx = WEEK1 to WEEK950(1)
 .COUNT  WUMP3 = WEEK1 to WEEK950(2)
 .COUNT  WOLF3 = WEEK1 to WEEK950(3)
 .END IF

IF MISSWEEK > 0  WEMP3 = -3
IF MISSWEEK > 0  WUMP3 = -3
IF MISSWEEK > 0  WOLF3 = -3
END IF

**** HAND EDITS
*** Some of these have an End-gap that was missed
*** by CASES, so the weeks looking and OLF are undefined
DO IF ANY(SERIAL, 1118, 1302, 2984, 0551)
.COMPUTE  WUMP3 = -3
.COMPUTE  WOLF3 = -3
END IF

******************************************************************************
***  Final Measure of weeks working!!!!
***  COMPIL 1, 2, 3 versions of WEMP, WUMP, WOLF
******************************************************************************

DO IF  NVAL(WEMP1, WUMP1, WOLF1) = 3
COMPUTE  WORK = WEMP1
COMPUTE  WUMP = WUMP1
COMPUTE  WOLF = WOLF1
END IF
DO IF NVAL(WEMP2, WUMP2, WOLF2) = 3
COMPUTE WORK = WEMP2
COMPUTE WUMP = WUMP2
COMPUTE WOLF = WOLF2
END IF

DO IF NVAL(WEMP3, WUMP3, WOLF3) = 3
COMPUTE WORK = WEMP3
COMPUTE WUMP = WUMP3
COMPUTE WOLF = WOLF3
END IF

****** HAND-EDIT WOLF FOR 1 CASE:
IF (SERIAL = 3431) WOLF = 110

MISS VAL WORK WUMP WOLF ()
FINISH
/*1980 Industry Codes */
ARRAY X R3619800 R3660500 R3679900 R3699900 R3719200 R3737700 R3754200 R3770400
        R3786400 R3796700 R3804800 R3960800 R3972700 R3983900 R3994300 R4004300
        R4014400 R4023200 R4029900 R4035800 R4040400 R4045500;
ARRAY Y R3619900 R3660600 R3680000 R3700000 R3719300 R3737800 R3754300 R3770500
        R3786500 R3796800 R3804900 R3960900 R3972800 R3984000 R3994400 R4004400
        R4014500 R4023300 R4030000 R4035900 R4040500 R4045600;

Do over Y; IF X = 012 THEN Y =020; ELSE IF X = 020 THEN Y =021; ELSE
  IF X = 030 THEN Y =020; ELSE IF X = 031 THEN Y = 030; ELSE
  IF X = 032 THEN Y =031; ELSE IF X = 450 THEN Y =460; ELSE
  IF X = 451 THEN Y =461; ELSE IF X = 452 THEN Y =462; ELSE
  IF X = 623 THEN Y = 630; ELSE IF X = 630 THEN Y =631; ELSE
  IF X = 631 THEN Y =632; ELSE IF X = 632 THEN Y =640; ELSE
  IF X = 633 THEN Y =640; ELSE IF X = 640 THEN Y =682; ELSE
  IF X = 661 THEN Y =682; ELSE IF X = 661 THEN Y =662; ELSE IF X = 662 THEN Y = 730; ELSE
  IF X = 732 THEN Y = 740; ELSE IF X = 740 THEN Y =741; ELSE
  IF X = 741 THEN Y =742; ELSE IF X = 742 THEN Y =742; ELSE IF X = 801 THEN Y = 682; ELSE IF X = 802 THEN Y =801; ELSE
  IF X = 810 THEN Y = 802; ELSE IF X = 863 THEN Y =892; ELSE
  IF X = 873 THEN Y = 892; ELSE IF X = 893 THEN Y =892; ELSE
  IF X = 940 THEN Y =990; ELSE IF X = 941 THEN Y =990; ELSE
  IF X = 942 THEN Y =990; ELSE IF X = 950 THEN Y =990; ELSE
  IF X = 951 THEN Y =990; ELSE IF X = 952 THEN Y =990; ELSE
  IF X = 960 THEN Y =990; ELSE IF X = 991 THEN Y =990; ELSE
  IF X = 992 THEN Y =990; ELSE Y = X;
END;

/*1980 Occupation Codes */
ARRAY XX R3640200 R3660900 R3680300 R3700300 R3719600 R3738100 R3754600 R3770700
        R3786700 R3796900 R3805000 R3961300 R3973400 R3984700 R3995100 R4005100
        R4015200 R4024000 R4030400 R4036300 R4040900 R4046000;
ARRAY YY R3640300 R3661000 R3680400 R3700400 R3719700 R3738200 R3754700 R3770800
        R3786800 R3797000 R3805100 R3961400 R3973500 R3984800 R3995200 R4005200
        R4015300 R4024100 R4030500 R4036400 R4041000 R4046100;

DO OVER YY; IF XX = 016 THEN YY =017; ELSE IF XX = 017 THEN YY =019; ELSE
  IF XX = 018 THEN YY = 016; ELSE IF XX = 019 THEN YY =018; ELSE
  IF XX = 021 THEN YY =019; ELSE IF XX = 022 THEN YY =019; ELSE
  IF XX = 353 THEN YY =349; ELSE IF XX = 368 THEN YY =369; ELSE
  IF XX = 436 THEN YY =437; ELSE IF XX = 461 THEN YY =463; ELSE
  IF XX = 462 THEN YY =464; ELSE IF XX = 463 THEN YY =465; ELSE
  IF XX = 464 THEN YY = 466; ELSE IF XX = 465 THEN YY =467; ELSE
  IF XX = 466 THEN YY = 468; ELSE IF XX = 467 THEN YY =468; ELSE
  IF XX = 628 THEN YY =633; ELSE IF XX = 674 THEN YY =673; ELSE
  IF XX = 795 THEN YY =794; ELSE IF XX = 804 THEN YY =805; ELSE
  IF XX = 864 THEN YY =863; ELSE IF XX = 865 THEN YY =864; ELSE
  IF XX = 866 THEN YY =865; ELSE IF XX = 867 THEN YY =866; ELSE
  IF XX = 868 THEN YY =867; ELSE IF XX = 874 THEN YY =873; ELSE
  IF XX = 903 THEN YY = -4; ELSE IF XX = 904 THEN YY = -4; ELSE
  IF XX = 905 THEN YY = -4; ELSE IF XX = 909 THEN YY = -4; ELSE YY = XX;
END;
/*Net Family Assets, Net Family Income, and Summation
NOTE. Amounts have been top-coded at Census */
C97=0; IF R4146300=0 & R4146400<0 & R4146500<0 THEN HOUSE97=0;
IF R4146500=0 & R4146700=0 THEN PROPDE97 = R4146500 + R4147000;
IF R4146500<0 & R4147000=0 THEN PROPDE97 = R4147000;
IF R4146500=0 & R4147000<0 THEN PROPDE97 = R4146600;
IF R4146500<0 | R4147000<0 THEN PROPDE97 = .
ELSE IF R4146400<0 & PROPDE97=0 THEN HOUSE97=R4146400-PROPDE97;
IF R4151200=1 & R4146400<=R4151100 & R4146500<=R4151300 & R4151100^-4 & R4151300^-4 THEN HOUSE97=0;
IF HOUSE97=1 THEN ASSET97=HOUSE97; ELSE C97=C97+1;
IF (R4147300=0 | R4161300=0) & R4147400<0 THEN SAVE97=0;
ELSE IF R4147400<0 THEN SAVE97=R4147400;
IF R4147500=1 & R4147600=1 THEN SAVE97=40000;
IF R4147500=1 & R4147600<0 THEN SAVE97=25000;
IF R4147500<0 & R4147700=1 THEN SAVE97=5500;
IF R4147500<0 & R4147700<0 THEN SAVE97=1000;
IF R4147500<1 & R4147600<1 & R4147700<1 THEN SAVE97=2 | R4147600=2 | R4147700=2 THEN SAVE97=.
IF SAVE97=1 THEN ASSET97=ASSET97+SAVE97; ELSE C97=C97+1;
IF (R4147800=0 | R4161300=0) & R4147900<0 THEN BOND97=0;
ELSE IF R4147900<0 THEN BOND97=R4147900;
IF R4148000=1 & R4148100=1 THEN BOND97=5000;
IF R4148000=1 & R4148100<0 THEN BOND97=3000;
IF R4148000<0 & R4148200=1 THEN BOND97=750;
IF R4148000<0 & R4148200<0 THEN BOND97=500;
IF R4148000<1 & R4148100<1 | R4148200<1 THEN R4148000=-2
IF R4148100=-2 & R4148200=-2 THEN BOND97=.
IF BOND97 =. THEN ASSET97=ASSET97+BOND97; ELSE C97=C97+1;
IF (R4148300=0 | R4161300=0) & R4148400<0 THEN STOCK97=0;
ELSE IF R4148400<0 THEN STOCK97=R4148400;
IF R4148500=1 & R4148600=1 THEN STOCK97=40000;
IF R4148500=1 & R4148600<0 THEN STOCK97=27500;
IF R4148500<0 & R4148700=1 THEN STOCK97=10000;
IF R4148500<0 & R4148700<0 THEN STOCK97=5000;
IF R4148500<1 & R4148600<1 & R4148700<1 THEN R4148500=-2
IF R4148600=-2 & R4148700=-2 THEN STOCK97=.
IF STOCK97=1 THEN ASSET97=ASSET97+STOCK97; ELSE C97=C97+1;
IF R4148800=0 & R4148900<0 THEN IRA97=0; ELSE IF R4148900 GE 0 THEN IRA97=R4148900;
IF R4149000=1 & R4149100=1 THEN IRA97=30000;
IF R4149000=1 & R4149100<0 THEN IRA97=22500;
IF R4149000<0 & R4149200=1 THEN IRA97=10000;
IF R4149000<0 & R4149200<0 THEN IRA97=5000;
IF R4149000<1 & R4149100<1 & R4149200<1 THEN R4149000=-2
IF R4149100=-2 & R4149200=-2 THEN IRA97 =.
IF IRA97=. THEN ASSET97=ASSET97+IRA97; ELSE C97=C97+1;
IF R4149300=0 & R4149400<0 THEN LOAN97=0; ELSE IF R4149400=0 THEN LOAN97=R4149400;
IF LOAN97=. THEN ASSET97=ASSET97+LOAN97; ELSE C97=C97+1;
IF (R4149500=0 | R4149700=1) & R4149800<0 THEN INSU97=0;
ELSE IF R4149800 GE 0 THEN INSU97=R4149800;
IF INSU97=. THEN ASSET97=ASSET97+INSU97; ELSE C97=C97+1;
IF R4150100=0 & R4150200=0 THEN TRUS97=0;
ELSE IF R4150200 = 0 THEN TRUS97 = R4150200;
IF TRUS97=. THEN ASSET97=ASSET97+TRUS97; ELSE C97=C97+1;
IF R4150600=0 & (R4150700=0) & R4150700<0 THEN SETTLE97=0;
ELSE IF R4150700<0 THEN SETTLE97=R4150700;
IF SETTLE97=. THEN ASSET97=ASSET97+SETTLE; ELSE C97=C97+1;
IF (R4151000=0 | R4160900=0) & R4151100=0 & R4151300=0 THEN IFARM=0;
ELSE IF R4151100=0 & R4151300=0 THEN IFARM=R4151100-R4151300;
IF IFARM =. THEN ASSET97=ASSET97+IFARM; ELSE C97=C97+1;
IF (R4151400=0 | R4153600=0 & R4157400=0) & R4151600=0 & R4151600<0 THEN IBUS97=0;
ELSE IF R4151500<0 & R4151600<0 THEN IBUS=R4151500-R4151600;
IF IBUS =. THEN ASSET97=ASSET97+IBUS; ELSE C97=C97+1;
IF (R4151700=0 | R4161100=0) & R4151800<0 & R4151900<0 & R4152000<0 THEN IREAL=0;
ELSE IF R4151800 >=0 & R4151900>=0 & R4152000>=0 THEN IREAL=R4151800 - R4151900 - R4152000;
IF IREAL = =, THEN ASSET97=ASSET97+IREAL; ELSE C97=C97+1;
IF R4152100=0 & R4152200<0 THEN DEBT=0; ELSE IF R4152200>=0 THEN DEBT=R4152200;
IF DEBT = =, THEN ASSET97=ASSET97-DEBT; ELSE C97=C97+1;
IF C97=0 THEN DO; IF ASSET97<99999 THEN R4171300=99999;
IF ASSET97>99999 THEN R4171300=ASSET97; END;

IF R4153500<0 THEN RWAGE=0; IF R4153500>=0 THEN RWAGE=R4153500;
IF (R4153600=0 | R4153600=4) & (R4153700=1 | R4153700=-2 | R4153700=-4) THEN RBUS=0;
IF R4153600=1 & R4153700>=0 THEN RBUS=R4153700;
IF R4153600=0 & R4153700>=0 THEN RBUS=-R4153700;
IF R4155800=0 & R4155900<0 & R4156000<0 THEN RUNEM=0;
IF R4155900<0 & R4156000<0 THEN RUNEM=R4155900*R4156000;
IF (RUNEM=0 | R4154100=0) & R4154200<0 & R4154300<0 THEN RSUB=0;
IF R4154200<0 & R4154300<0 THEN RSUB=R4154200*R4154300;
IF R4154400<0 & R4154500<0 & R4154600<0 THEN RSOQ=0;
IF R4154500<0 & R4154600<0 THEN RSOQ=R4154500*R4154600;
IF R4154800<0 & R4154900<0 THEN RVET=0; IF R4154900>=0 THEN RVET=R4154900;
IF R4155000<0 & R4155100<0 THEN RCOM=0; IF R4155100>=0 THEN RCOM=R4155100;
IF R4155200<0 & R4155300<0 THEN RSSD=0; IF R4155300>=0 THEN RSSD=R4155300;
IF R4155400<0 & R4155500<0 THEN RDIS=0; IF R4155500>=0 THEN RDIS=R4155500;
IF R4155600<0 THEN DO;
REPRI=0; REMIL=0; REFED=0; RESTE=0; REUNI=0; REIRA=0; RETRO=0; END;
IF R4155700<0 & R4155800<0 THEN REPRI=0; IF R4155800>=0 THEN REPRI=R4155800;
IF R4155900<0 & R4156000<0 THEN REMIL=0; IF R4156000>=0 THEN REMIL=R4156000;
IF R4156100<0 & R4156200<0 THEN REFED=0; IF R4156200>=0 THEN REFED=R4156200;
IF R4156300<0 & R4156400<0 THEN RESTE=0; IF R4156400>=0 THEN RESTE=R4156400;
IF R4156500<0 & R4156600<0 THEN REUNI=0; IF R4156600>=0 THEN REUNI=R4156600;
IF R4156700<0 & R4156800<0 THEN REIRA=0; IF R4156800>=0 THEN REIRA=R4156800;
IF R4156900<0 & R4157000<0 THEN RETRO=0; IF R4157000>=0 THEN RETRO=R4157000;
IF (R4157100=1 | R4157200=0) & R4157300=0 THEN SWAGE=0;
IF R4157300<0 THEN SWAGE=R4157300;
IF (R4157100=1 | R4157400=0 | R4157400=4) & R4157500<0 THEN SBUS=0;
IF R4157400=1 & R4157500=0 THEN SBUS=R4157500;
IF R4157400=3 & R4157500=0 THEN SBUS=0-R4157500;
IF (R4157100=1 | R4157600=0) & R4157600<0 & R4157800<0 THEN SUNEM=0;
IF R4157700<0 & R4157800<0 THEN SUNEM=R4157700*R4157800;
IF (R4157100=1 | R4157900=0) SUNEM=0 & R4158000<0 & R4158100<0 THEN SSUB=0;
IF R4158000<0 & R4158100<0 THEN SSUB=R4158000*R4158100;
IF (R4157100=1 | R4158200<0 & R4158300<0 THEN SSOC=0;
IF R4158200<0 & R4158400<0 THEN SSOC=R4158300*R4158400;
IF (R4157100=1 | R4158600<0 & R4158700<0 THEN SVET=0;
IF R4158700<0 THEN SVET=R4158700;
IF (R4157100=1 | R4158800<0) & R4158900<0 THEN SCOM=0;
IF R4158900<0 THEN SCOM=R4158900;
IF (R4157100=1 | R4159000<0) & R4159100<0 THEN SSSD=0;
IF R4159100<0 THEN SSSD=R4159100;
IF (R4157100=1 | R4159200<0) & R4159300<0 THEN SDIS=0;
IF R4159300<0 THEN SDIS=R4159300;
IF (R4157100=1 | R4159400<0) THEN DO;
SREPRI=0; SREML=0; SREFD=0; SRESTE=0; SRENUNI=0; SREIRA=0; SREOTH=0; END;
IF R4159500<0 & R4159600<0 THEN SREPRI=0; IF R4159600>=0 THEN SREPRI=R4159600;
IF R4159700<0 & R4159800<0 THEN SREML=0; IF R4159800>=0 THEN SREML=R4159800;
IF R4159900<0 & R4160000<0 THEN SREFD=0; IF R4160000>=0 THEN SREFD=R4160000;
IF R4160100<0 & R4160200<0 THEN SRESTE=0; IF R4160200>=0 THEN SRESTE=R4160200;
IF R4160300<0 & R4160400<0 THEN SRENUNI=0; IF R4160400>=0 THEN SRENUNI=R4160400;
IF R4160500<0 & R4160600<0 THEN SREIRA=0; IF R4160600>=0 THEN SREIRA=R4160600;
IF R4160700<0 & R4160800<0 THEN SREOTH=0; IF R4160800>=0 THEN SREOTH=R4160800;
IF (R4160900>0 | R4160900<0) & (R4161000=4 | R4161000=-1 | R4161000=-2) THEN FARM=0;
IF R4160900=1 & R4161000=0 THEN FARM=R4161000;
IF R4160900=3 & R4161000=0 THEN FARM=0-R4161000;
IF (R4161100=0 | R4161200=4) & (R4161200=-4 | R4161200=-1 | R4161200=-2) THEN RENT=0;
IF R4161100=1 & R4161200=0 THEN RENT=R4161200;
IF R4161100=3 & R4161200=0 THEN RENT=0-R4161200;
IF R4161300=0 & R4161400=0 THEN INTT=0; IF R4161400>0 THEN INTT=R4161400;
IF R4161500=0 & R4161600=0 & R4161700=0 THEN FOODS=0;
IF R4161600>0 & R4161700>0 THEN FOODS=R4161600*R4161700;
IF R4161800=0 & R4161900=0 & R4162000=0 THEN AFDC=0;
IF R4161900>0 & R4162000>0 THEN AFDC=R4161900*R4162000;
IF R4162100=0 & R4162200=0 & R4162300=0 THEN SSI=0;
IF R4162200>0 & R4162300>0 THEN SSI=R4162200*R4162300;
IF (R4162400=0 & R4162600=0) & R4162500<0 & R4162700<0 THEN ALI=0;
IF R4162500>0 & R4162700>0 THEN ALI=R4162500-R4162700;
IF R4162500>0 & R4162700<0 THEN ALI=R4162500;
IF R4162500<0 & R4162700=-4 THEN ALI=R4162500;
IF R4162500<4 & R4162700=ALI THEN ALI=R4162700;
ELSE IF R4163000=0 THEN CHDSUP=0; ELSE IF R4163000>=0 THEN CHDSUP=R4163000;
ELSE IF R4163700=2 & R4166200>=0 THEN CHDSUP=R4166200;
ELSE IF R4163700=1 & R4167000=0 THEN CHDSUP=R4167000;
ELSE IF R4163700=3 & R4166200=0 THEN CHDSUP=R4166200+R4167000;
IF R4167400=0 & (R4167500=0 & R4167600=0 & R4167700=0) THEN RCHD=0;
IF R4167400=0 & R4167500>0 THEN RCHD=52*R4167500; ELSE IF R4167600>0 THEN RCHD=12*R4167600;
ELSE IF R4167700>0 THEN RCHD=10*R4167700;
IF (R4157100=1 | R4168000=0) & (R4168100<0 & R4168200<0 & R4168300<0) THEN HPCHD=0;
ELSE IF R4168100>0 THEN HPCHD=52*R4168100;
ELSE IF R4168200>0 THEN HPCHD=12*R4168200;
ELSE IF R4168300>0 THEN HPCHD=R4168300;
IF CHDSUP>0 & RCHD>0 & HPCHD>0 THEN CHLD=CHDSUP-RCHD-HPCHD;
IF R4168500=0 & R4168600<0 THEN OTHER=0; IF R4168600=0 THEN OTHER=R4168600;
IF R4168800 NE 2 & R4168900<0 THEN FAM=0; ELSE IF R4168800=2 THEN DO;
IF R4168900=1 THEN FAM= 2000; ELSE IF R4168900=2 THEN FAM= 5000;
ELSE IF R4168900=3 THEN FAM= 6750; ELSE IF R4168900=4 THEN FAM= 8250;
ELSE IF R4168900=5 THEN FAM= 12500; ELSE IF R4168900=6 THEN FAM= 16250;
ELSE IF R4168900=7 THEN FAM= 18750; ELSE IF R4168900=8 THEN FAM= 22500;
ELSE IF R4168900=9 THEN FAM= 3000; ELSE IF R4168900=10 THEN FAM= 42500;
ELSE IF R4168900=11 THEN FAM= 62500; ELSE IF R4168900=12 THEN FAM= 87500;
ELSE IF R4168900=13 THEN FAM=10000; ELSE IF (R4168900=0 | R4168900=14) THEN FAM=0;
END;
IF R4171400=- & R4171400=-9999 THEN R4171400=-9999;
IF R4171400=-99999 THEN R4171400=-99999;

NI=0;
Array ALLINC RWAGE RBUS RUNEM RSUB RSOC RVET RCOM RSSD RDIDS REPRI REMIL REPE RESTE REUNIREIA REOTH SWAGE BUSN SUNEM SBOU SSOV STCOM SSDD SDIDS SREPI SREML SREPE SRENM SREUNI SREIRA SREOTH FARM RENT INTT FOODS AFDC SSI ALI CHILD OTHER FAM;
DO OVER ALLINC; IF ALLINC GE 0 THEN DO; NI=NI+1;
if NI=1 then R4171500=allinc if NI=1 then R4171500=R4171500+ALLINC; END; end;
if R4171500. & R4153300=1 THEN DO;
IF R4153300=1 THEN R4171500=2000; ELSE IF R4153300=2 THEN R4171500=5000;
ELSE IF R4153300=3 THEN R4171500=6750; ELSE IF R4153300=4 THEN R4171500=8250;
ELSE IF R4153300=5 THEN R4171500=12500; ELSE IF R4153300=6 THEN R4171500=16250;
ELSE IF R4153300=7 THEN R4171500=18750; ELSE IF R4153300=8 THEN R4171500=22500;
ELSE IF R4153300=9 THEN R4171500=30000; ELSE IF R4153300=10 THEN R4171500=42500;
ELSE IF R4153300=11 THEN R4171500=62500; ELSE IF R4153300=12 THEN R4171500=87500;
ELSE IF R4153300=13 THEN R4171500=10000; ELSE IF R4153300 =14 THEN R4171500=0;
END;
IF R4171500=- & R4171500=-99999 THEN R4171500=-99999; IF R4171500=-999999 THEN R4171500=-999999;
/*The highest grade completed for 1997 is the highest grade completed in the previous
survey year updated with additional schooling reported in 1997.*/

if R0079000 = -127 then R0079000 = .;
if R0079000 = -128 then R0079000 = .;
if R0381500 = -127 then R0381500 = .;
if R0381500 = -128 then R0381500 = .;
if R0989700 = -127 then R0989700 = .;
if R0989700 = -128 then R0989700 = .;
if R3476600 = -4 then R3476600 = .;
if R3476600 = -5 then R3476600 = .;
HGC=R3476600;
IF R3499100=1993 THEN HGC=R1520410;
IF R3499100=1991 THEN HGC=R1346410;
IF R3499100=1998 THEN HGC=R1215110;
IF R3499100=1987 THEN HGC=R1097410;
IF R3499100=1985 THEN HGC=R1051610;
IF R3499100=1983 THEN HGC=R0929510;
IF R3499100=1982 THEN HGC=R0797110;
IF R3499100=1980 THEN HGC=R0749910;
IF COHORT='MW' & (R3499100=1992 OR R3499100=1989) THEN HGC=R0989700;
IF COHORT='MW' & (1979 LE R3499100 LE 1987) THEN HGC=R0381500;
IF COHORT='MW' & HGC=. THEN HGC=R0079000;

IF HGC=7 THEN HGC=95;
IF HGC=6 THEN HGC=12;
IF HGC=5 THEN HGC=94;
IF HGC=4 THEN HGC=93;
IF HGC=3 THEN HGC=98;
IF HGC=2 THEN HGC=97;
IF HGC=1 THEN HGC=96;

IF 1 LE R4193300 LE 10 THEN R4192800=R4193300+7;
IF 1 LE R4193500 LE 11 THEN R4192800=95;
IF 1 LE R4193500 LE 12 THEN R4192800=12;
IF 3 LE R4193800 LE 4 THEN R4192800=18;
IF 2 THEN R4192800=16;
IF 1 THEN R4192800=14;
IF HGC=R4192800 THEN R4192800=HGC;

/*PENSION DATA FOR 1997 AS COMPARED TO 1995
In 1995 pension questions are part of the Employer roster: RSP-108 (HSP-108) through
CK-P1-I (CK-HPL-I) for the first (husband's) pension; RSP-208 (HSP-208) through CK-P2-
I (CK-HP2-I) for the second, RSP-308 (HSP-308) through CK-P3-I (CK-HP3-I) for the
third, and RSP-408 (HSP-408) through CK-P4-I (CK-HP4-I) for the fourth. So if
Respondent X's current employer is on Line 3, and she is participating in two pensions
from that employer, pension data for 1995 will be present in the 108 and 208 series
(pensions one and two) at -ARR-03 (Employer 3).
In 1997, pension data comprise a separate roster within the Employer roster. In
addition, questions have been added (CK-PEN-2, RSP-102A,B,C) that skip a respondent
around information collected in 1995 if the pension for her current job has not
changed. Questions have also been added (CK-PEN, CK-PEN3, CK-PEN4,RSP-146A to RSP-
146H) that ask about pensions from employers that are not current but were active
since the last interview.
To help make the transition from one roster to another, R3PENS on the Employer roster
shows the line number of the pension roster where pensions for that Employer begin.
R7PENS on the pension roster shows the count of a pension for a particular employer,
and R7EMPS on the pension roster shows the line number of the Employer that is
associated with a particular pension. Suppose for example, that Respondent X's current
employer is on Line 6, that she is participating in two pensions from that employer,
and that she has a non-current employer on Line 2. R3PENS-ROST02 (Employer 2) shows
"1" (for pensions to begin at Line 1 of the respondent pension roster), R7PENS-ROST1
shows "1" (for the first pension of that employer), R7EMPS-ROST1 shows "2" (for Employer 2). R1PENS-ROST06 (Employer 6) shows "2" (for pensions to begin at Line 2 of the pension roster), R7EMPS-ROST2 shows "1" (for the first pension of that employer), R7EMPS-ROST2 shows "6" (for Employer 6), R7EMPS-ROST3 shows "2" (for the second pension of that employer), and R7EMPS-ROST3 shows "6" (for Employer 6). Documentation variables for the husband/partner are R5PENS (on the H/P Employer roster), and R8PENS and R8EMPS (on the H/P pension roster).

Because gaps in employment follow the same roster structure as do pensions, variables that document transitions between rosters are analogous. R7PENS, R7EMPS, R8PENS, and R8EMPS are created at the Census Bureau, along with R4EGAP, R4EMPS, R6EGAP, and R6EMPS. Following is the code for R3PENS, R5PENS, R3EGAP and R5EGAP.

```
IF R3847500=1 THEN DO; IF R3847600=1 THEN R3655700=1;
    ELSE IF R3847600=2 THEN R3675200=1; ELSE IF R3847600=3 THEN R3695200=1;
    ELSE IF R3847600=4 THEN R3714500=1; ELSE IF R3847600=5 THEN R3733100=1;
    ELSE IF R3847600=6 THEN R3749600=1; ELSE IF R3847600=7 THEN R3765800=1;
    ELSE IF R3847600=8 THEN R3781900=1; ELSE IF R3847600=9 THEN R3793300=1;
    ELSE IF R3847600=10 THEN R3801300=1; ELSE IF R3847600=11 THEN R3809400=1; END;

IF R3859000=1 THEN DO; IF R3859100=1 THEN R3655700=2;
    ELSE IF R3859100=2 THEN R3675200=2; ELSE IF R3859100=3 THEN R3695200=2;
    ELSE IF R3859100=4 THEN R3714500=2; ELSE IF R3859100=5 THEN R3733100=2;
    ELSE IF R3859100=6 THEN R3749600=2; ELSE IF R3859100=7 THEN R3765800=2;
    ELSE IF R3859100=8 THEN R3781900=2; ELSE IF R3859100=9 THEN R3793300=2;
    ELSE IF R3859100=10 THEN R3801300=2; ELSE IF R3859100=11 THEN R3809400=2; END;

IF R3868000=1 THEN DO; IF R3868100=1 THEN R3655700=3;
    ELSE IF R3868100=2 THEN R3675200=3; ELSE IF R3868100=3 THEN R3695200=3;
    ELSE IF R3868100=4 THEN R3714500=3; ELSE IF R3868100=5 THEN R3733100=3;
    ELSE IF R3868100=6 THEN R3749600=3; ELSE IF R3868100=7 THEN R3765800=3;
    ELSE IF R3868100=8 THEN R3781900=3; ELSE IF R3868100=9 THEN R3793300=3;
    ELSE IF R3868100=10 THEN R3801300=3; ELSE IF R3868100=11 THEN R3809400=3; END;

IF R3876000=1 THEN DO; IF R3876100=1 THEN R3655700=4;
    ELSE IF R3876100=2 THEN R3675200=4; ELSE IF R3876100=3 THEN R3695200=4;
    ELSE IF R3876100=4 THEN R3714500=4; ELSE IF R3876100=5 THEN R3733100=4;
    ELSE IF R3876100=6 THEN R3749600=4; ELSE IF R3876100=7 THEN R3765800=4;
    ELSE IF R3876100=8 THEN R3781900=4; ELSE IF R3876100=9 THEN R3793300=4;
    ELSE IF R3876100=10 THEN R3801300=4; ELSE IF R3876100=11 THEN R3809400=4; END;

IF R3881900=1 THEN DO; IF R3882000=1 THEN R3655700=5;
    ELSE IF R3882000=2 THEN R3675200=5; ELSE IF R3882000=3 THEN R3695200=5;
    ELSE IF R3882000=4 THEN R3714500=5; ELSE IF R3882000=5 THEN R3733100=5;
    ELSE IF R3882000=6 THEN R3749600=5; ELSE IF R3882000=7 THEN R3765800=5;
    ELSE IF R3882000=8 THEN R3781900=5; ELSE IF R3882000=9 THEN R3793300=5;
    ELSE IF R3882000=10 THEN R3801300=5; ELSE IF R3882000=11 THEN R3809400=5; END;

IF R3885200=1 THEN DO; IF R3885300=1 THEN R3655700=6;
    ELSE IF R3885300=2 THEN R3675200=6; ELSE IF R3885300=3 THEN R3695200=6;
    ELSE IF R3885300=4 THEN R3714500=6; ELSE IF R3885300=5 THEN R3733100=6;
    ELSE IF R3885300=6 THEN R3749600=6; ELSE IF R3885300=7 THEN R3765800=6;
    ELSE IF R3885300=8 THEN R3781900=6; ELSE IF R3885300=9 THEN R3793300=6;
    ELSE IF R3885300=10 THEN R3801300=6; ELSE IF R3885300=11 THEN R3809400=6; END;

IF R3885800=1 THEN DO; IF R3885900=1 THEN R3655700=7;
    ELSE IF R3885900=2 THEN R3675200=7; ELSE IF R3885900=3 THEN R3695200=7;
    ELSE IF R3885900=4 THEN R3714500=7; ELSE IF R3885900=5 THEN R3733100=7;
    ELSE IF R3885900=6 THEN R3749600=7; ELSE IF R3885900=7 THEN R3765800=7;
    ELSE IF R3885900=8 THEN R3781900=7; ELSE IF R3885900=9 THEN R3793300=7;
    ELSE IF R3885900=10 THEN R3801300=7; ELSE IF R3885900=11 THEN R3809400=7; END;

IF R3886500=1 THEN DO; IF R3886600=1 THEN R3655700=8;
    ELSE IF R3886600=2 THEN R3675200=8; ELSE IF R3886600=3 THEN R3695200=8;
    ELSE IF R3886600=4 THEN R3714500=8; ELSE IF R3886600=5 THEN R3733100=8;
    ELSE IF R3886600=6 THEN R3749600=8; ELSE IF R3886600=7 THEN R3765800=8;
    ELSE IF R3886600=8 THEN R3781900=8; ELSE IF R3886600=9 THEN R3793300=8;
    ELSE IF R3886600=10 THEN R3801300=8; ELSE IF R3886600=11 THEN R3809400=8; END;
```
IF R4088700=1 THEN DO; IF R4088800=1 THEN R3968500=1;
ELSE IF R4088800=2 THEN R3979800=1; ELSE IF R4088800=3 THEN R3990200=1;
ELSE IF R4088800=4 THEN R4000300=1; ELSE IF R4088800=5 THEN R4010400=1;
ELSE IF R4088800=6 THEN R4019200=1; ELSE IF R4088800=7 THEN R4026900=1;
ELSE IF R4088800=8 THEN R4033000=1; ELSE IF R4088800=9 THEN R4038000=1;
ELSE IF R4088800=10 THEN R4041500=1; ELSE IF R4088800=12 THEN R4044000=1;
ELSE IF R4088800=13 THEN R4047300=1; END;
IF R4100100=1 THEN DO; IF R4100200=1 THEN R3968500=2;
ELSE IF R4100200=2 THEN R3979800=2; ELSE IF R4100200=3 THEN R3990200=2;
ELSE IF R4100200=4 THEN R4000300=2; ELSE IF R4100200=5 THEN R4010400=2;
ELSE IF R4100200=6 THEN R4019200=2; ELSE IF R4100200=7 THEN R4026900=2;
ELSE IF R4100200=8 THEN R4033000=2; ELSE IF R4100200=9 THEN R4038000=2;
ELSE IF R4100200=10 THEN R4041500=2; ELSE IF R4100200=12 THEN R4044000=2;
ELSE IF R4100200=13 THEN R4047300=2; END;
IF R4108000=1 THEN DO; IF R4108100=1 THEN R3968500=3;
ELSE IF R4108100=2 THEN R3979800=3; ELSE IF R4108100=3 THEN R3990200=3;
ELSE IF R4108100=4 THEN R4000300=3; ELSE IF R4108100=5 THEN R4010400=3;
ELSE IF R4108100=6 THEN R4019200=3; ELSE IF R4108100=7 THEN R4026900=3;
ELSE IF R4108100=8 THEN R4033000=3; ELSE IF R4108100=9 THEN R4038000=3;
ELSE IF R4108100=10 THEN R4041500=3; ELSE IF R4108100=12 THEN R4044000=3;
ELSE IF R4108100=13 THEN R4047300=3; END;
IF R4114200=1 THEN DO; IF R4114300=1 THEN R3968500=4;
ELSE IF R4114300=2 THEN R3979800=4; ELSE IF R4114300=3 THEN R3990200=4;
ELSE IF R4114300=4 THEN R4000300=4; ELSE IF R4114300=5 THEN R4010400=4;
ELSE IF R4114300=6 THEN R4019200=4; ELSE IF R4114300=7 THEN R4026900=4;
ELSE IF R4114300=8 THEN R4033000=4; ELSE IF R4114300=9 THEN R4038000=4;
ELSE IF R4114300=10 THEN R4041500=4; ELSE IF R4114300=12 THEN R4044000=4;
ELSE IF R4114300=13 THEN R4047300=4; END;
IF R4117900=1 THEN DO; IF R4118000=1 THEN R3968500=5;
ELSE IF R4118000=2 THEN R3979800=5; ELSE IF R4118000=3 THEN R3990200=5;
ELSE IF R4118000=4 THEN R4000300=5; ELSE IF R4118000=5 THEN R4010400=5;
ELSE IF R4118000=6 THEN R4019200=5; ELSE IF R4118000=7 THEN R4026900=5;
ELSE IF R4118000=8 THEN R4033000=5; ELSE IF R4118000=9 THEN R4038000=5;
ELSE IF R4118000=10 THEN R4041500=5; ELSE IF R4118000=12 THEN R4044000=5;
ELSE IF R4118000=13 THEN R4047300=5; END;
IF R4118900=1 THEN DO; IF R4119000=1 THEN R3968500=6;
ELSE IF R4119000=2 THEN R3979800=6; ELSE IF R4119000=3 THEN R3990200=6;
ELSE IF R4119000=4 THEN R4000300=6; ELSE IF R4119000=5 THEN R4010400=6;
ELSE IF R4119000=6 THEN R4019200=6; ELSE IF R4119000=7 THEN R4026900=6;
ELSE IF R4119000=8 THEN R4033000=6; ELSE IF R4119000=9 THEN R4038000=6;
ELSE IF R4119000=10 THEN R4041500=6; ELSE IF R4119000=12 THEN R4044000=6;
ELSE IF R4119000=13 THEN R4047300=6; END;
IF R4119900=1 THEN DO; IF R4120000=1 THEN R3968500=7;
ELSE IF R4120000=2 THEN R3979800=7; ELSE IF R4120000=3 THEN R3990200=7;
ELSE IF R4120000=4 THEN R4000300=7; ELSE IF R4120000=5 THEN R4010400=7;
ELSE IF R4120000=6 THEN R4019200=7; ELSE IF R4120000=7 THEN R4026900=7;
ELSE IF R4120000=8 THEN R4033000=7; ELSE IF R4120000=9 THEN R4038000=7;
ELSE IF R4120000=10 THEN R4041500=7; ELSE IF R4120000=12 THEN R4044000=7;
ELSE IF R4120000=13 THEN R4047300=7; END;
IF R3813900=1 THEN DO; IF R3814000=1 THEN R3639000=1;
ELSE IF R3814000=2 THEN R3659700=1; ELSE IF R3814000=3 THEN R3679100=1;
ELSE IF R3814000=4 THEN R3699100=1; ELSE IF R3814000=5 THEN R3718400=1;
ELSE IF R3814000=6 THEN R3736900=1; ELSE IF R3814000=7 THEN R3753400=1;
ELSE IF R3814000=8 THEN R3769600=1; ELSE IF R3814000=9 THEN R3785600=1;
ELSE IF R3814000=10 THEN R3796200=1; ELSE IF R3814000=11 THEN R3804300=1; END;
IF R3815900=1 THEN DO; IF R3816000=1 THEN R3639000=2;
ELSE IF R3816000=2 THEN R3659700=2; ELSE IF R3816000=3 THEN R3679100=2;
ELSE IF R3816000=4 THEN R3699100=2; ELSE IF R3816000=5 THEN R3718400=2;
ELSE IF R3816000=6 THEN R3736900=2; ELSE IF R3816000=7 THEN R3753400=2;
ELSE IF R3816000=8 THEN R3769600=2; ELSE IF R3816000=9 THEN R3785600=2;
ELSE IF R3816000=10 THEN R3796200=2; ELSE IF R3816000=11 THEN R3804300=2; END;
IF R3817900=1 THEN DO; IF R3818000=1 THEN R3639000=3;
ELSE IF R3818000=2 THEN R3659700=3; ELSE IF R3818000=3 THEN R3679100=3;
ELSE IF R3818000=4 THEN R3699100=3; ELSE IF R3818000=5 THEN R3718400=3;
ELSE IF R3818000=6 THEN R3736900=3; ELSE IF R3818000=7 THEN R3753400=3;
ELSE IF R3818000=8 THEN R3769600=3; ELSE IF R3818000=9 THEN R3785600=3;
ELSE IF R3818000=10 THEN R3796200=3; ELSE IF R3818000=11 THEN R3804300=3; END;
IF R3820100=1 THEN DO; IF R3820200=1 THEN R3639000=4;
ELSE IF R3820200=2 THEN R3659700=4; ELSE IF R3820200=3 THEN R3679100=4;
ELSE IF R3820200=4 THEN R3699100=4; ELSE IF R3820200=5 THEN R3718400=4;
ELSE IF R3820200=6 THEN R3736900=4; ELSE IF R3820200=7 THEN R3753400=4;
ELSE IF R3820200=8 THEN R3769600=4; ELSE IF R3820200=9 THEN R3785600=4;
ELSE IF R3820200=10 THEN R3796200=4; ELSE IF R3820200=11 THEN R3804300=4; END;
IF R3822100=1 THEN DO; IF R3822200=1 THEN R3639000=5;
ELSE IF R3822200=2 THEN R3659700=5; ELSE IF R3822200=3 THEN R3679100=5;
ELSE IF R3822200=4 THEN R3699100=5; ELSE IF R3822200=5 THEN R3718400=5;
ELSE IF R3822200=6 THEN R3736900=5; ELSE IF R3822200=7 THEN R3753400=5;
ELSE IF R3822200=8 THEN R3769600=5; ELSE IF R3822200=9 THEN R3785600=5;
ELSE IF R3822200=10 THEN R3796200=5; ELSE IF R3822200=11 THEN R3804300=5; END;
IF R3824100=1 THEN DO; IF R3824200=1 THEN R3639000=6;
ELSE IF R3824200=2 THEN R3659700=6; ELSE IF R3824200=3 THEN R3679100=6;
ELSE IF R3824200=4 THEN R3699100=6; ELSE IF R3824200=5 THEN R3718400=6;
ELSE IF R3824200=6 THEN R3736900=6; ELSE IF R3824200=7 THEN R3753400=6;
ELSE IF R3824200=8 THEN R3769600=6; ELSE IF R3824200=9 THEN R3785600=6;
ELSE IF R3824200=10 THEN R3796200=6; ELSE IF R3824200=11 THEN R3804300=6; END;
IF R3826100=1 THEN DO; IF R3826200=1 THEN R3639000=7;
ELSE IF R3826200=2 THEN R3659700=7; ELSE IF R3826200=3 THEN R3679100=7;
ELSE IF R3826200=4 THEN R3699100=7; ELSE IF R3826200=5 THEN R3718400=7;
ELSE IF R3826200=6 THEN R3736900=7; ELSE IF R3826200=7 THEN R3753400=7;
ELSE IF R3826200=8 THEN R3769600=7; ELSE IF R3826200=9 THEN R3785600=7;
ELSE IF R3826200=10 THEN R3796200=7; ELSE IF R3826200=11 THEN R3804300=7; END;
IF R3828100=1 THEN DO; IF R3828200=1 THEN R3639000=8;
ELSE IF R3828200=2 THEN R3659700=8; ELSE IF R3828200=3 THEN R3679100=8;
ELSE IF R3828200=4 THEN R3699100=8; ELSE IF R3828200=5 THEN R3718400=8;
ELSE IF R3828200=6 THEN R3736900=8; ELSE IF R3828200=7 THEN R3753400=8;
ELSE IF R3828200=8 THEN R3769600=8; ELSE IF R3828200=9 THEN R3785600=8;
ELSE IF R3828200=10 THEN R3796200=8; ELSE IF R3828200=11 THEN R3804300=8; END;
IF R3830000=1 THEN DO; IF R3830100=1 THEN R3639000=9;
ELSE IF R3830100=2 THEN R3659700=9; ELSE IF R3830100=3 THEN R3679100=9;
ELSE IF R3830100=4 THEN R3699100=9; ELSE IF R3830100=5 THEN R3718400=9;
ELSE IF R3830100=6 THEN R3736900=9; ELSE IF R3830100=7 THEN R3753400=9;
ELSE IF R3830100=8 THEN R3769600=9; ELSE IF R3830100=9 THEN R3785600=9;
ELSE IF R3830100=10 THEN R3796200=9; ELSE IF R3830100=11 THEN R3804300=9; END;
IF R3831900=1 THEN DO; IF R3832000=1 THEN R3639000=10;
ELSE IF R3832000=2 THEN R3659700=10; ELSE IF R3832000=3 THEN R3679100=10;
ELSE IF R3832000=4 THEN R3699100=10; ELSE IF R3832000=5 THEN R3718400=10;
ELSE IF R3832000=6 THEN R3736900=10; ELSE IF R3832000=7 THEN R3753400=10;
ELSE IF R3832000=8 THEN R3769600=10; ELSE IF R3832000=9 THEN R3785600=10;
ELSE IF R3832000=10 THEN R3796200=10; ELSE IF R3832000=11 THEN R3804300=10; END;
IF R3833700=1 THEN DO; IF R3833800=1 THEN R3639000=11;
ELSE IF R3833800=2 THEN R3659700=11; ELSE IF R3833800=3 THEN R3679100=11;
ELSE IF R3833800=4 THEN R3699100=11; ELSE IF R3833800=5 THEN R3718400=11;
ELSE IF R3833800=6 THEN R3736900=11; ELSE IF R3833800=7 THEN R3753400=11;
ELSE IF R3833800=8 THEN R3769600=11; ELSE IF R3833800=9 THEN R3785600=11;
ELSE IF R3833800=10 THEN R3796200=11; ELSE IF R3833800=11 THEN R3804300=11; END;
IF R3835400=1 THEN DO; IF R3835500=1 THEN R3639000=12;
ELSE IF R3835500=2 THEN R3659700=12; ELSE IF R3835500=3 THEN R3679100=12;
ELSE IF R3835500=4 THEN R3699100=12; ELSE IF R3835500=5 THEN R3718400=12;
ELSE IF R3835500=6 THEN R3736900=12; ELSE IF R3835500=7 THEN R3753400=12;
ELSE IF R3835500=8 THEN R3769600=12; ELSE IF R3835500=9 THEN R3785600=12;
ELSE IF R3835500=10 THEN R3796200=12; ELSE IF R3835500=11 THEN R3804300=12; END;
IF R4050800=1 THEN DO; IF R4050900=1 THEN R3960000=1;
ELSE IF R4050900=2 THEN R3971900=1; ELSE IF R4050900=3 THEN R3983200=1;
ELSE IF R4050900=4 THEN R3993600=1; ELSE IF R4050900=5 THEN R4003600=1;
ELSE IF R4050900=6 THEN R4013700=1; ELSE IF R4050900=7 THEN R4022500=1;
ELSE IF R4050900=8 THEN R4029400=1; ELSE IF R4050900=9 THEN R4035300=1; END;
IF R4052800=1 THEN DO; IF R4052900=1 THEN R3960000=2;
ELSE IF R4052900=2 THEN R3971900=2; ELSE IF R4052900=3 THEN R3983200=2;
ELSE IF R4052900=4 THEN R3993600=2; ELSE IF R4052900=5 THEN R4003600=2;
ELSE IF R4052900=6 THEN R4013700=2; ELSE IF R4052900=7 THEN R4022500=2;
ELSE IF R4052900=8 THEN R4029400=2; ELSE IF R4052900=9 THEN R4035300=2; END;
IF R4054800=1 THEN DO; IF R4054900=1 THEN R3960000=3;
ELSE IF R4054900=2 THEN R3971900=3; ELSE IF R4054900=3 THEN R3983200=3;
ELSE IF R4054900=4 THEN R3993600=3; ELSE IF R4054900=5 THEN R4003600=3;
ELSE IF R4054900=6 THEN R4013700=3; ELSE IF R4054900=7 THEN R4022500=3;
ELSE IF R4054900=8 THEN R4029400=3; ELSE IF R4054900=9 THEN R4035300=3; END;
IF R4056800=1 THEN DO; IF R4056900=1 THEN R3960000=4;
ELSE IF R4056900=2 THEN R3971900=4; ELSE IF R4056900=3 THEN R3983200=4;
ELSE IF R4056900=4 THEN R3993600=4; ELSE IF R4056900=5 THEN R4003600=4;
ELSE IF R4056900=6 THEN R4013700=4; ELSE IF R4056900=7 THEN R4022500=4;
ELSE IF R4056900=8 THEN R4029400=4; ELSE IF R4056900=9 THEN R4035300=4; END;
IF R4058800=1 THEN DO; IF R4058900=1 THEN R3960000=5;
ELSE IF R4058900=2 THEN R3971900=5; ELSE IF R4058900=3 THEN R3983200=5;
ELSE IF R4058900=4 THEN R3993600=5; ELSE IF R4058900=5 THEN R4003600=5;
ELSE IF R4058900=6 THEN R4013700=5; ELSE IF R4058900=7 THEN R4022500=5;
ELSE IF R4058900=8 THEN R4029400=5; ELSE IF R4058900=9 THEN R4035300=5; END;
IF R4060000=1 THEN DO; IF R4060800=1 THEN R3960000=6;
ELSE IF R4060800=2 THEN R3971900=6; ELSE IF R4060800=3 THEN R3983200=6;
ELSE IF R4060800=4 THEN R3993600=6; ELSE IF R4060800=5 THEN R4003600=6;
ELSE IF R4060800=6 THEN R4013700=6; ELSE IF R4060800=7 THEN R4022500=6;
ELSE IF R4060800=8 THEN R4029400=6; ELSE IF R4060800=9 THEN R4035300=6; END;
IF R4062600=1 THEN DO; IF R4062700=1 THEN R3960000=7;
ELSE IF R4062700=2 THEN R3971900=7; ELSE IF R4062700=3 THEN R3983200=7;
ELSE IF R4062700=4 THEN R3993600=7; ELSE IF R4062700=5 THEN R4003600=7;
ELSE IF R4062700=6 THEN R4013700=7; ELSE IF R4062700=7 THEN R4022500=7;
ELSE IF R4062700=8 THEN R4029400=7; ELSE IF R4062700=9 THEN R4035300=7; END;
IF R4064500=1 THEN DO; IF R4064600=1 THEN R3960000=8;
ELSE IF R4064600=2 THEN R3971900=8; ELSE IF R4064600=3 THEN R3983200=8;
ELSE IF R4064600=4 THEN R3993600=8; ELSE IF R4064600=5 THEN R4003600=8;
ELSE IF R4064600=6 THEN R4013700=8; ELSE IF R4064600=7 THEN R4022500=8;
ELSE IF R4064600=8 THEN R4029400=8; ELSE IF R4064600=9 THEN R4035300=8; END;
IF R4066400=1 THEN DO; IF R4066500=1 THEN R3960000=9;
ELSE IF R4066500=2 THEN R3971900=9; ELSE IF R4066500=3 THEN R3983200=9;
ELSE IF R4066500=4 THEN R3993600=9; ELSE IF R4066500=5 THEN R4003600=9;
ELSE IF R4066500=6 THEN R4013700=9; ELSE IF R4066500=7 THEN R4022500=9;
ELSE IF R4066500=8 THEN R4029400=9; ELSE IF R4066500=9 THEN R4035300=9; END;
IF R4067300=1 THEN DO; IF R4067400=1 THEN R3960000=10;
ELSE IF R4067400=2 THEN R3971900=10; ELSE IF R4067400=3 THEN R3983200=10;
ELSE IF R4067400=4 THEN R3993600=10; ELSE IF R4067400=5 THEN R4003600=10;
ELSE IF R4067400=6 THEN R4013700=10; ELSE IF R4067400=7 THEN R4022500=10;
ELSE IF R4067400=8 THEN R4029400=10; ELSE IF R4067400=9 THEN R4035300=10; END;
IF R4069200=1 THEN DO; IF R4069300=1 THEN R3960000=11;
ELSE IF R4069300=2 THEN R3971900=11; ELSE IF R4069300=3 THEN R3983200=11;
ELSE IF R4069300=4 THEN R3993600=11; ELSE IF R4069300=5 THEN R4003600=11;
ELSE IF R4069300=6 THEN R4013700=11; ELSE IF R4069300=7 THEN R4022500=11;
ELSE IF R4069300=8 THEN R4029400=11; ELSE IF R4069300=9 THEN R4035300=11; END;
IF R4071100=1 THEN DO; IF R4071200=1 THEN R3960000=12;
ELSE IF R4071200=2 THEN R3971900=12; ELSE IF R4071200=3 THEN R3983200=12;
ELSE IF R4071200=4 THEN R3993600=12; ELSE IF R4071200=5 THEN R4003600=12;
ELSE IF R4071200=6 THEN R4013700=12; ELSE IF R4071200=7 THEN R4022500=12;
ELSE IF R4071200=8 THEN R4029400=12; ELSE IF R4071200=9 THEN R4035300=12; END;
IF R4073000=1 THEN DO; IF R4073100=1 THEN R3960000=13;
ELSE IF R4073100=2 THEN R3971000=13; ELSE IF R4073100=3 THEN R3983200=13;
ELSE IF R4073100=4 THEN R3993600=13; ELSE IF R4073100=5 THEN R4003600=13;
ELSE IF R4073100=6 THEN R4013700=13; ELSE IF R4073100=7 THEN R4022500=13;
ELSE IF R4073100=8 THEN R4029400=13; ELSE IF R4073100=9 THEN R4035300=13; END;
IF R4074900=1 THEN DO; IF R4075000=1 THEN R3960000=14;
ELSE IF R4075000=2 THEN R3971000=14; ELSE IF R4075000=3 THEN R3983200=14;
ELSE IF R4075000=4 THEN R3993600=14; ELSE IF R4075000=5 THEN R4003600=14;
ELSE IF R4075000=6 THEN R4013700=14; ELSE IF R4075000=7 THEN R4022500=14;
ELSE IF R4075000=8 THEN R4029400=14; ELSE IF R4075000=9 THEN R4035300=14; END;
IF R4076800=1 THEN DO; IF R4076900=1 THEN R3960000=15;
ELSE IF R4076900=2 THEN R3971000=15; ELSE IF R4076900=3 THEN R3983200=15;
ELSE IF R4076900=4 THEN R3993600=15; ELSE IF R4076900=5 THEN R4003600=15;
ELSE IF R4076900=6 THEN R4013700=15; ELSE IF R4076900=7 THEN R4022500=15;
ELSE IF R4076900=8 THEN R4029400=15; ELSE IF R4076900=9 THEN R4035300=15; END;

;/*Hourly rate of pay, KEY*/
array hrop R3644200 R3664900 R3684300 R3704300 R3723500 R3740700 R3758100 R3773800
R3785800 R3799000 R3805800 R3826700 R3847300 R3858500 R3963000
R4006200 R4016300 R4024900 R4031000 R4036500 HROPP1;
array ehrop R3644300 R3665000 R3684400 EHROP4 R3723600 EHROP6 R3758200 EHROP8-EHROP11
EHROP12-EHROP21;
array wrop R3647800 R3667800 R3687600 R3707200 R3726500 R3742700 R3760200 R3775700
WROP9-WROP11 R3965600 R3977000 R3987600 R3997800 R4008000 R4017000
WROP18-WROP21;
array ewrop R3647900 R3667900 R3687700 R3707300 R3726100 EWROP6 R3760300
EWROP8-EWROP11 R3965700 R3977100 R3987700 R3997900 R4008100
R4017100 EWROP18-EWROP21;
array mrop R3648300 R3668300 R3688100 R3707700 R3726500 R3743100 MROP7 R3776000
MROP9-MROP11 R3966100 R3977500 R3988100 R3998200 R4008400 R4017400
MROP18-MROP21;
array emrop R3648400 EMROP2-EMROP11 R3966200 R3977600 R3988200 R3998300
EMROP16-EMROP21;
array arop R3648800 R3668600 R3688400 R3708000 R3726800 R3743400 R3760700
R3776300 R3788900 AROP10-AROP11 R3966600 R3978000 R3988600 R3998700
R4008700 R4017700 R4025600 R4032200 AROP20 R4046600;
array earop R3648900 R3668700 R3688500 R3708100 R3726900 EAROP6 R3760800
EAROP8-EAROP11 R3966700 R3978100 R3988700 R3998800 EAROP16-EAROP21;
array brop R3649300 R3669100 R3689000 R3708500 R3727200 R3743700 R3761100
BROP8-BROP11 R3967100 R3978500 R3989100 R3999200 R4009100
R4018100 R4025900 BROP19-BROP21;
array ebro R3649400 R3669200 R3689000 EBROP4-EBROP11
R37367200 R3978600 EBROP14 EBROP15 R4009200 EBROP17-EBROP21;
ARRAY OROP R3650200 R3669900 R3689800 R3709200 R3727900 R3744400 R3761800
R3776900 OROP9-OROP11 R3968000 R3979300 R3989800 R3999900 R4009900
R4018800 R4026500 OROP19-OROP21;
array swhrp R3650600 R3670300 R3690100 R3709600 R3728200 R3744700 R3762100 R3777200
R3789600 R3800000 R3806800 R3968400 R3979700 R3990100 R4000200 R4010300
R4019100 R4026800 R4032900 R4037900 R4047200;
array cow R3637700 R3658400 R3677900 R3697900 R3717200 R3735800 R3752300 R3768500
R3784600 R3795400 R3803400 R3958700 R3970700 R3982000 R3992400 R4002500
R4012600 R4021400 R4028500 R4034500 R4044600;
array ushd R3639100 R3659800 R3679200 R3699200 R3718500 R3737700 R3753500 R3769700
R3785700 R3796300 R3804400 R3960100 R3972000 R3983300 R3993700 R4003700
R4013800 R4022600 R4029500 R4035400 R4045000;
array ushw R3639600 R3660300 R3679700 R3699700 R3719000 R3737500 R3754000 R3770200
R3786200 R379600 R3804700 R3960600 R3972500 R3983800 R3994200 R4004200
R4014300 R4023100 R4029800 R4035700 R4045400;
array turp R3643900 R3664600 R3684000 R3704000 R3723200 R3740400 R3757800 R3773500
R3787900 R3798700 R3805500 R3962400 R3974300 R3985600 R3996000 R4005900
R4016000 R4024600 R4030700 R4036600 R4046300;
array uswy R3649800 R3669500 R3689400 R3708800 R3727500 R3744000 R3761400 R3776600 R3789200 R3799700 R3806500 R3967600 R3978900 R3989400 R3999500 R4009500 R4018400 R4026200 R4032500 R4037600 R4046900;

do over SWHRP;
  IF EHROP>0 THEN HROP=EHROP; IF EWROP>0 THEN WROP=EWROP;
  IF EMROP>0 THEN MROP=EMROP; IF EAROP>0 THEN AROP=EAROP;
  IF EROP>0 THEN BROP=EROP;
  IF COW GE 1 THEN DO;
    if turp=1 & HROP>0 then swhrp=Hrop; IF USHW LT USHD THEN USHW=-3;
    if ushw>0 then do;
      if ((turp=2 | TURP=3 | TURP=7) & WROP>0) then swhrp=((Wrop*100)/ushw);
      if (turp=4 & BROP>0) then swhrp=((Brop*100)/(ushw*2));
      if ((turp=5 | TURP=8) & MROP>0) then swhrp=((Mrop*100)/(ushw*4.33));
      if (turp=6 & uswy ge 1 & AROP>0) then swhrp=((Arop*100)/(ushw*ushw));
    IF OROP>0 THEN SWHRP=OROP;
  swHRP = FLOOR(swHRP + .5); IF swHRP < 1 | swHRP >99999 THEN swHRP = .;
END; END; if swhrp=. then swhrp=-4; END;

/* Re-coding of text entries HEA-9D, PAR-56 and PAR-66 */

IF HEA_9D=’ARM’ then hea9d=13;
IF HEA_9D=’BACK’ then hea9d=20;
IF HEA_9D=’BASAL CELL CANCER’ then hea9d=14;
IF HEA_9D=’BEHIND BREAST ON RIB’ then hea9d=2;
IF HEA_9D=’BLADDER’ then hea9d=1;
IF HEA_9D=’BLADDER, UTERUS’ then hea9d=1;
IF HEA_9D=’BLOOD’ then hea9d=20;
IF HEA_9D=’BRAIN’ then hea9d=4;
IF HEA_9D=’BREAST’ then hea9d=3;
IF HEA_9D=’BREAST CANCER’ then hea9d=3;
IF HEA_9D=’BREAST RIGHT’ then hea9d=3;
IF HEA_9D=’BREAST-’ then hea9d=3;
IF HEA_9D=’BREAST’ then hea9d=3;
IF HEA_9D=’CAROTID GLAND’ then hea9d=20;
IF HEA_9D=’CEREWICAL’ then hea9d=5;
IF HEA_9D=’CERVASAL’ then hea9d=5;
IF HEA_9D=’CERVICAL’ then hea9d=5;
IF HEA_9D=’CERVEX’ then hea9d=5;
IF HEA_9D=’CERVICAL’ then hea9d=5;
IF HEA_9D=’CERVIX’ then hea9d=5;
IF HEA_9D=’CEVIX CANCER’ then hea9d=5;
IF HEA_9D=’CHEEK BONE IN FACE’ then hea9d=14;
IF HEA_9D=’CHEEKBONE AREA FACE’ then hea9d=14;
IF HEA_9D=’CHEST WALL’ then hea9d=20;
IF HEA_9D=’COLIN CANCER’ then hea9d=6;
IF HEA_9D=’COLON’ then hea9d=6;
IF HEA_9D=’COLON’ then hea9d=6;
IF HEA_9D=’COLON/RECTAL’ then hea9d=6;
IF HEA_9D=’D’ then hea9d=2;
IF HEA_9D=’DID NOT OCCUR’ then hea9d=3;
IF HEA_9D=’EAR’ then hea9d=15;
IF HEA_9D=’ENDOMETRIUM’ then hea9d=18;
IF HEA_9D=’ESOPHAGUS’ then hea9d=9;
IF HEA_9D=’FACE’ then hea9d=14;
IF HEA_9D=’FACE, UNDER EYE’ then hea9d=14;
IF HEA_9D=’FALLOPIAN TUBE’ then hea9d=18;
IF HEA_9D=’FEMAL PART OF BODY’ then hea9d=18;
IF HEA_9D=’FEMALE’ then hea9d=18;
IF HEA_9D=’FEMALE ORGANS’ then hea9d=18;
IF HEA_9D=’FOREHEAD’ then hea9d=15;
IF HEA_9D=’GROIN’ then hea9d=20;
IF HEA_9D=’HEAD’ then hea9d=15;
IF HEA_9D=’HODGKINSON DISEASE’ then hea9d=20;
IF HEA_9D=’IN HER UTERUS’ then hea9d=18;
IF HEA_9D=’KIDNEY’ then hea9d=7;
IF HEA_9D=’LARGE INTESTINE’ then hea9d=6;
IF HEA_9D=’LEFT BREAST’ then hea9d=3;
IF HEA_9D=’LEFT EYE’ then hea9d=20;
IF HEA_9D='LEFT LEG' then hea9d=16;
IF HEA_9D='LEFT LUNG' then hea9d=8;
IF HEA_9D='LEFT LUNG TEMPLE' then hea9d=8;
IF HEA_9D='LEFT SIDE' then hea9d=20;
IF HEA_9D='LEG' then hea9d=16;
IF HEA_9D='LEGS' then hea9d=16;
IF HEA_9D='LIP' then hea9d=14;
IF HEA_9D='LUNG' then hea9d=8;
IF HEA_9D='LUNGS' then hea9d=8;
IF HEA_9D='LYMPH NODES' then hea9d=20;
IF HEA_9D='LYMPH NODES IN NECK' then hea9d=20;
IF HEA_9D='LYMPHOMA' then hea9d=20;
IF HEA_9D='MOUTH' then hea9d=9;
IF HEA_9D='NECK' then hea9d=15;
IF HEA_9D='NECK, RIBS AND BREAS' then hea9d=15;
IF HEA_9D='NOSE' then hea9d=14;
IF HEA_9D='OPENING BIRTH CHANNE' then hea9d=19;
IF HEA_9D='OVARIAN' then hea9d=10;
IF HEA_9D='OVARIAN CANCER' then hea9d=10;
IF HEA_9D='OVARIES' then hea9d=10;
IF HEA_9D='OVARY' then hea9d=10;
IF HEA_9D='OVERBREAS' then hea9d=10;
IF HEA_9D='PANCREAS' then hea9d=11;
IF HEA_9D='R' then hea9d=-1;
IF HEA_9D='RECTAL TUMOR' then hea9d=6;
IF HEA_9D='RIBS' then hea9d=2;
IF HEA_9D='RIGHT BREAST' then hea9d=3;
IF HEA_9D='RIGHT LEG-LOWER TIBI' then hea9d=16;
IF HEA_9D='RT BREAT' then hea9d=3;
IF HEA_9D='SINUSES' then hea9d=15;
IF HEA_9D='SKIN' then hea9d=17;
IF HEA_9D='SKIN CANCER' then hea9d=17;
IF HEA_9D='SKIN CANCER MELANOMA' then hea9d=17;
IF HEA_9D='SKIN FACE' then hea9d=14;
IF HEA_9D='SKIN ON ARM' then hea9d=13;
IF HEA_9D='SKIN ON FOREHEAD' then hea9d=15;
IF HEA_9D='SOFT PALLET' then hea9d=9;
IF HEA_9D='SPLEEN' then hea9d=20;
IF HEA_9D='STOMACH' then hea9d=20;
IF HEA_9D='THROAT' then hea9d=9;
IF HEA_9D='THYROID' then hea9d=20;
IF HEA_9D='TONGUE' then hea9d=9;
IF HEA_9D='UPPER BODY' then hea9d=20;
IF HEA_9D='UPPER RIGHT ARM' then hea9d=13;
IF HEA_9D='URINARY TRACT' then hea9d=20;
IF HEA_9D='UTERAS' then hea9d=18;
IF HEA_9D='UTERIAN' then hea9d=18;
IF HEA_9D='UTERINE' then hea9d=18;
IF HEA_9D='UTERINE AREA' then hea9d=18;
IF HEA_9D='UTERIS' then hea9d=18;
IF HEA_9D='UTEROUS' then hea9d=18;
IF HEA_9D='UTERUS' then hea9d=18;
IF HEA_9D='UTERUS AND BREAST' then hea9d=18;
IF HEA_9D='UTERUS, OVARI'S' then hea9d=18;
IF HEA_9D='VAGINAL' then hea9d=19;
IF HEA_9D='VAGINAL TUMORS' then hea9d=19;
IF HEA_9D='WOMB' then hea9d=18;
IF HEA_9D='WOMB CANCER' then hea9d=18;

if par_56_1="BECAUSE BROTHER MANIPULATED FUNDS."
  then par56=6;
if par_56_1="BECAUSE FATHER DISOWNED XXXXXXXX BECAUSE SHE LEFT HOME AND"
  then par56=7;
if par_56_1="BECAUSE HE CHOSE TO DO IT THAT WAY"
  then par56=8;
if par_56_1="BECAUSE I WAS THE EXECUTOR OF THE ESTATE SO I RECEIVED MORE"
  then par56=6;
if par_56_1="BECAUSE MY SISTER WAS EXECUTOR OF ESTATE"
  then par56=6;
if par_56_1="BECAUSE SHE WAS THE CARE GIVER"
  then par56=1;
if par_56_1="BIOLOGICAL CHILDREN RECEIVED MORE FROM ESTATE."
  then par56=4;
if par_56_1="CHILD WAS ADOPTED & SHE THINKS SHE GOD A LITTLE LESS."
  then par56=4;
if par_56_1="CONTESTING OF THE WILL AND LEGAL FEES"
  then par56=7;
if par_56_1="EUROPEAN MALE INHERITANCE"
  then par56=3;
if par_56_1="FAMILY DISAGREEMENT"
  then par56=7;
if par_56_1="HE DID NOT LEAVE ANYTHING BUT 100.00 TO ONE CHILD"
  then par56=8;
if par_56_1="HE HAD AN ACCOUNT IN MY NAME"
  then par56=8;
if par_56_1="HE PAID THE REAL ESTATE TAXES ON THE PROPERTY AND HE GOT IT" then par56=6;
if par_56_1="I DONT KNOW" then par56=2;
if par_56_1="I LIVED THE HOUSE THAT I RECEIVED AS PART OF THE ESTATE" then par56=1;
if par_56_1="I TOOK CARE OF HIM" then par56=1;
if par_56_1="IT WAS DIVIDED AMONG THE 3 THAT HE STILL SUPPORTED" then par56=2;
if par_56_1="LEFT TO PERSON WHO TOOK CARE OF THEM. DAUGHTER XXXXXX" then par56=4;
if par_56_1="MEDICAL AND HOSPITAL AND FINAL EXPENSES USED UP MAJORITY" then par56=0;
if par_56_1="MY BROTHER GOT THE HOUSE BECAUSE HE WAS LIVING THERE AT THE" then par56=1;
if par_56_1="MY SISTER LIVED WITH HIM, SO HOME LEFT TO HER" then par56=1;
if par_56_1="N" then par56=3;
if par_56_1="NOBODY WANTED THE HOUSE SO HE GAVE IT TO ME" then par56=5;
if par_56_1="ONE SISTER HAD TAKEN CARE OF FATHER DURING ILLNESS" then par56=1;
if par_56_1="ONE TOOK CARE OF THE DAD" then par56=1;
if par_56_1="ONE WAS POOREER THAN THE OTHER, MOST OF HIS MONEY WENT TO THE" then par56=1;
if par_56_1="OTHER PERSON DID NOT WANT ANY OF THE ESTATE" then par56=2;
if par_56_1="RESP BIOLOGICAL, OTHER NOT" then par56=4;
if par_56_1="SHE HAD BOUGHT HER BROTHERS SHARE AND HE HAD PASSED AWAY" then par56=8;
if par_56_1="SHE RECEIVED FATHERS ESTATE AND SISTER RECEIVED MOTHERS" then par56=3;
if par_56_1="SISTER LIVED WITH FATHER AND SHE WILL CONTINUE TO OCCUPY" then par56=1;
if par_56_1="SISTERS FAMILY IS WEALTHY AND VOLUNTARILY TOOK HERSELF OUT" then par56=2;
if par_56_1="SP THE ONE WHO TOOK CARE OF PARENTS IN LATER YEARS" then par56=1;
if par_56_1="THE ONE SON WAS THE EXECUTOR" then par56=6;
if par_56_1="WE DECIDED THE OLDEST BROTHER NEEDED MORE HELP" then par56=2;

IF PAR_66_1="ALL THE OTHERS WERE MARRIED, EVERYTHING WENT TO THE SISTER" THEN PAR66=1;
IF PAR_66_1="BECAUSE BROTHER TOOK CARE OF HER FINANCIALLY AND WE DIDNT" THEN PAR66=1;
IF PAR_66_1="BECAUSE I DID NOT WANT IT" THEN PAR66=8;
IF PAR_66_1="BECAUSE I WAS THE ONLY ONE TO TAKE CARE OF HER WHEN SHE WAS" THEN PAR66=1;
IF PAR_66_1="BECAUSE MY BROTHER DISASSOCIATED HIMSELF FROM THE FAMILY" THEN PAR66=7;
IF PAR_66_1="BECAUSE ONE DAUGHTER CARED FOR HER AND LIVED IN SAME HOUSE" THEN PAR66=1;
IF PAR_66_1="BECAUSE SOME OF THE CHILDREN HAD THEIR OWN CHILDREN TO" THEN PAR66=2;
IF PAR_66_1="BECAUSE THAT WAS HER WISHES" THEN PAR66=8;
IF PAR_66_1="BECAUSE THEY HAD CULT FAMILY TIES PRIOR TO HER DEATH" THEN PAR66=7;
IF PAR_66_1="BECAUSE XXXX CARIED FOR HER MOTHER IN HER LATER YEARS" THEN PAR66=1;
IF PAR_66_1="BROTHER TOOK CARE OF HER" THEN PAR66=1;
IF PAR_66_1="BROTHER IN XXXXX INHERITED ENTIRE ESTATE" THEN PAR66=3;
IF PAR_66_1="BROTHER RECEIVED FARM, ALL OTHER 9 CHILDREN RECEIVED MONEY" THEN PAR66=5;
IF PAR_66_1="BROTHER WORKED FARM" THEN PAR66=5;
IF PAR_66_1="CD'S WERE IN OTHER NAME" THEN PAR66=8;
IF PAR_66_1="DID NOT TREAT HER EQUALLY" THEN PAR66=7;
IF PAR_66_1="DIDNT FEEL HER DAUGHTERS WERE CAPABLE OF HANDLING IT" THEN PAR66=7;
IF PAR_66_1="DON'T KNOW" THEN PAR66=2;
IF PAR_66_1="DON'T KNOW" THEN PAR66=2;
IF PAR_66_1="FAMILY SITUATION --" THEN PAR66=7;
IF PAR_66_1="FAVORED HER ONLY SON" THEN PAR66=3;
IF PAR_66_1="FAVORITISM" THEN PAR66=3;
IF PAR_66_1="HAVE ONE SISTER THAT IS SINGLE AND TOOK CARE OF MOTHER" THEN PAR66=1;
IF PAR_66_1="HE WAS THE YOUNGEST IT WAS UNDERSTOOD" THEN PAR66=2;
IF PAR_66_1="HOUSE WAS LEFT TO ONE SISTER AND THE REST WAS DIVIDED UP" THEN PAR66=5;
IF PAR_66_1="I DON'T KNOW SINCE I NO LONGER LIVE IN XX. THE THREE WHO" THEN PAR66=8;
IF PAR_66_1="I DON'T KNOW" THEN PAR66=2;
IF PAR_66_1="I TOOK CARE OF HER WHEN SHE WAS SICK." THEN PAR66=1;
IF PAR_66_1="JUST MOTHER'S CHOICE" THEN PAR66=8;
IF PAR_66_1="LAND COULD NOT BE DISTRIBUTED EQUALLY" THEN PAR66=5;
IF PAR_66_1="LEFT THE HOUSE TO HER SISTER WHO LIVED WITH HER" THEN PAR66=1;
IF PAR_66_1="LEFT THE HOUSE TO THE BABY. OTHERS WERE GROWN" THEN PAR66=5;
IF PAR_66_1="LEFT TO CARE FOR REMAINED CHILD" THEN PAR66=2;
IF PAR_66_1="LIVED ON A SON'S PROPERTY SO HE GOT HER MOBILE HOME" THEN PAR66=1;
IF PAR_66_1="MOTHER WANT THAT WAY" THEN PAR66=8;
IF PAR_66_1="MY BROTHER GOT AN EQUAL AMOUNT ON THE PROPERTY PLUS A TRUCK" THEN PAR66=8;
IF PAR_66_1="MY MOTHER DIDN'T LIKE MY BROTHER'S WIFE" THEN PAR66=7;
IF PAR_66_1="N" THEN PAR66=3;
IF PAR_66_1="OLDER SISTER CARED FOR MOTHER" THEN PAR66=1;
IF PAR_66_1="OLDEST BOY GOT THE FARM" THEN PAR66=5;
IF PAR_66_1="ONE CHILD BORROWED MONEY AND NEVER PAID IT BACK" THEN PAR66=2;
IF PAR_66_1="ONE SISTER LIVED AT HOME AND PROVIDING A HOME FOR ANOTHER" THEN PAR66=1;
IF PAR_66_1="ONE SISTER LIVED WITH AND TOOK CARE OF MOTHER" THEN PAR66=1;
IF PAR_66_1="ONE SISTER LIVED WITH MOTHER AND THINGS WERE OWNED JOINTLY" THEN PAR66=1;
IF PAR_66_1="ONE SON THAT ACTUALLY LIVED ON AND WORKED THE FARM GOT" THEN PAR66=1;
IF PAR_66_1="PERSONAL REASONS" THEN PAR66=3;
IF PAR_66_1="PROPERTY WENT TO OLDEST CHILD/A BROTHER OF RESP. THEN WHEN " THEN PAR66=5;
IF PAR_66_1="SHE FELT THE SON SHOULD HAVE MORE TO HELP HIM
IF PAR_66_1="SHE GAVE A LAKE HOUSE TO ONE BROTHER
IF PAR_66_1="SHE GOT CASH AND BROTHER GOT PROPERTY
IF PAR_66_1="SHE HAD GIVEN ALREADY TO HIM IN HER LIFETIME
IF PAR_66_1="SHE LEFT ALL TO DAUGHTER BECAUSE SHE HAD HELPED SON ALL
IF PAR_66_1="SHE LIKED HER
IF PAR_66_1="SHE WAS AN INVALID FOR 20 YEARS AND I TOOK CARE OF HER
IF PAR_66_1="SHE WAS MAD
IF PAR_66_1="SISTER RECEIVED MOTHER ESTATE AND RESPONDENT RECEIVED
IF PAR_66_1="STEP SON RECEIVED LESS
IF PAR_66_1="THE BOYS GOT EVERYTHING THATS THE WAY IT IS
IF PAR_66_1="THEY PAID OFF A HOUSE FOR THEM
IF PAR_66_1="THEY TOOK CARE OF HER AND WAS LIVING THERE
IF PAR_66_1="THOSE CHILDREN WERE NOT CLOSE TO HER. ONE HAD ALREADY PASSED
IF PAR_66_1="VARIED BY WHAT WAS OWED TO THE MOTHER BY THE CHILD AND THE
IF PAR_66_1="WENT TO YOUNGER BROTHER BECAUSE HE TOOK CARE OF HER
IF PAR_66_1="WOULD LIKE TO KNOW WHY LEFT ONLY TO SON
IF PAR_66_1="YES BECAUSE MY YOUNGER SISTER WAS STILL ATTENDING SCHOOL AN" THEN PAR66=2;
IF PAR_66_1="YOU HAVE TO KNOW THE CHILDREN" THEN PAR66=3;