

Control
Questionnaire LGA,DIS,VIL,EA,COMP,HH

MAX-STORAGE GPC 1
HOUSE 1
POP 500
.REPORTS QUESTIONNAIRES .FOR CENTRY
Reports Summary

Variables
X,IND,CHILDREN,AGEHHH,LIGHT 2,KITCHEN 1,BATH 1,TOILET 2,SX 1,SEX,PH,PX,AGE,
IND2,CNCR 0

P14BP03(31,3)

01 5 8
02 6 9
03 6 10
04 7 11
05 8 12
06 9 14
11 10 16
21 10 16
22 11 17
23 12 18
24 13 19
31 10 16
32 11 17
33 12 18
34 13 19
35 14 20
36 15 21
37 16 22
41 14 20
42 15 21
43 16 22
51 14 20
52 15 21
53 16 22
54 17 23
61 17 23
62 18 24
63 19 25
64 20 26
70 20 26
80 22 28

P19ABP03(21,2)

0 12
1 12
2 12
3 15
4 17
5 19
6 21
7 23
8 25
9 27
10 29
11 31
12 33
13 35
14 37
15 39
16 41
17 43
18 45
19 47
20 49

P16P03(86,5)

| | | | | |
|-----|----|---|----|---|
| 011 | 18 | 0 | 00 | 1 |
| 111 | 23 | 0 | 00 | 2 |
| 112 | 25 | 1 | 35 | 1 |
| 114 | 25 | 1 | 06 | 3 |
| 121 | 27 | 0 | 00 | 5 |
| 122 | 19 | 0 | 00 | 5 |
| 123 | 19 | 0 | 00 | 4 |
| 131 | 19 | 0 | 00 | 4 |
| 211 | 25 | 1 | 24 | 4 |
| 212 | 24 | 1 | 24 | 3 |
| 213 | 19 | 1 | 24 | 3 |
| 214 | 14 | 1 | 24 | 5 |
| 221 | 28 | 1 | 35 | 3 |
| 222 | 16 | 1 | 35 | 5 |
| 223 | 16 | 1 | 35 | 5 |
| 231 | 21 | 1 | 43 | 5 |
| 232 | 16 | 1 | 24 | 1 |
| 233 | 15 | 1 | 21 | 5 |
| 234 | 19 | 1 | 23 | 1 |
| 235 | 20 | 1 | 37 | 1 |
| 241 | 18 | 1 | 24 | 5 |
| 242 | 20 | 1 | 24 | 4 |
| 243 | 19 | 1 | 70 | 1 |
| 244 | 20 | 1 | 34 | 3 |
| 245 | 14 | 0 | 00 | 5 |
| 246 | 18 | 0 | 00 | 5 |
| 311 | 15 | 0 | 00 | 5 |
| 312 | 19 | 1 | 24 | 4 |
| 313 | 15 | 0 | 00 | 4 |
| 314 | 15 | 0 | 00 | 4 |
| 315 | 18 | 0 | 00 | 1 |
| 321 | 18 | 0 | 00 | 4 |
| 322 | 15 | 1 | 24 | 3 |
| 323 | 14 | 1 | 24 | 5 |
| 331 | 15 | 1 | 11 | 5 |
| 332 | 15 | 1 | 24 | 5 |
| 333 | 15 | 1 | 24 | 1 |
| 334 | 15 | 1 | 24 | 3 |
| 341 | 14 | 0 | 00 | 5 |
| 342 | 14 | 0 | 00 | 5 |
| 343 | 18 | 1 | 24 | 5 |
| 344 | 15 | 0 | 00 | 1 |
| 345 | 18 | 1 | 24 | 1 |
| 346 | 18 | 1 | 24 | 1 |
| 347 | 10 | 0 | 00 | 5 |
| 348 | 18 | 0 | 00 | 5 |
| 411 | 15 | 1 | 11 | 5 |
| 412 | 14 | 1 | 11 | 1 |
| 413 | 14 | 1 | 06 | 5 |
| 414 | 15 | 1 | 11 | 1 |
| 419 | 15 | 1 | 11 | 1 |
| 421 | 15 | 0 | 00 | 3 |
| 422 | 15 | 1 | 21 | 4 |
| 511 | 15 | 0 | 00 | 5 |
| 512 | 10 | 0 | 00 | 4 |
| 513 | 10 | 0 | 00 | 4 |
| 514 | 15 | 0 | 00 | 5 |
| 516 | 15 | 0 | 00 | 5 |
| 521 | 16 | 0 | 00 | 5 |
| 723 | 10 | 0 | 00 | 5 |
| 724 | 10 | 0 | 00 | 5 |
| 731 | 10 | 0 | 00 | 5 |
| 732 | 10 | 0 | 00 | 4 |
| 734 | 14 | 0 | 00 | 5 |
| 741 | 10 | 0 | 00 | 5 |
| 742 | 10 | 0 | 00 | 4 |
| 743 | 10 | 0 | 00 | 5 |
| 744 | 15 | 0 | 00 | 5 |

811 18 0 00 5
812 18 0 00 4
813 15 0 00 3
814 18 0 00 4
815 18 0 00 3
816 15 0 00 5
817 18 0 00 3
821 16 0 00 3
822 17 0 00 5
823 15 0 00 3
824 18 0 00 3
825 18 0 00 3
826 10 0 00 5
827 13 0 00 5
828 18 0 00 3
829 18 0 00 3
833 18 0 00 3
834 14 0 00 3

FOR-NEW-QUEST

IF LGA<>VALID
MSG "LGA NOT VALID"
END-IF

IF DIS<>VALID
MSG "DIS NOT VALID"
END-IF

IF VIL<>VALID
MSG "VIL NOT VALID, QUEST. STOPPED"
STOP-QUEST
END-IF

IF EA<>VALID
MSG "NOT VALID EA"
END-IF

IF GRP<>VALID
MSG "NOT VALID GRP"
END-IF

IF TYPE-COUNT(GPC)=0
MSG "QUESTIONNAIRE HAS NO GPC RECORD,QUEST. STOPPED "
STOP-QUEST
END-IF

IF TYPE-COUNT(GPC)>1
MSG "QUESTIONNAIRE HAS MORE THAN ONE GPC RECORD"
END-IF

IF TYPE-COUNT(HOUSE)<> 1 AND GRP =1
MSG "NORMAL HH DOES NOT HAVE HOUSE RECORD, QUEST. STOPPED"
STOP-QUEST
END-IF

For-each (HOUSE)

CALL SH

SUBROUTINE SH

IF GRP=1

.CHECKS ON H1A

IF H1A<>VALID AND H1A<>9

```

MSG "NOT VALID CODE FOR H1A"

  IF H1B=BLANK
    IMPUTE H1A=1
    MSG"SOLVED"
  ELSE
    IMPUTE H1A=2
    MSG "SOLVED"
  END-IF

  IF H1A<>VALID AND H1A<>9
    IMPUTE H1A=4
    MSG "SOLVED"
  END-IF
END-IF

IF H1A=9
  IF H1B=BLANK
    IMPUTE H1A=1
    MSG"NS RECOVERED"
  END-IF
END-IF

.CHECKS ON H1B

IF H1B<>VALID and H1B<>BLANK AND H1B<>9
  MSG "NOT VALID H1B"
  IMPUTE H1B=9
  MSG"SOLVED BY NS"
END-IF

IF H1B=9
  IF H1A=1
    IMPUTE H1B=BLANK
    MSG"NS RECOVERED"
  END-IF
END-IF

IF H1B=BLANK AND (H1A=2 OR H1A=3)
  MSG "RENTED ACCOMMODATION H1B IS NOT REALLY RENTED H1A"
  IMPUTE H1B=9
  MSG "SOLVED BY NS"
END-IF

IF H1A=1 AND H1B<>BLANK
  MSG "OWNER OCCUPIED CANNOT BE RENTED"
  IF H1B=1
    IMPUTE H1B=BLANK
    MSG "SOLVED"
  ELSE
    IMPUTE H1A=2
    MSG "SOLVED"
  END-IF
END-IF

.CHECKS ON H2

IF H2<>VALID AND H2<>9
  MSG "H2 NOT VALID"
  IF H4=6
    IMPUTE H2=1
    MSG "SOLVED"
  ELSE
    LET LIGHT=5-LIGHT
    IMPUTE H2=LIGHT
    MSG "SOLVED"
  END-IF
END-IF

```

```
IF H2=9
  IF H4=6
    IMPUTE H2=1
    MSG "NS RECOVERED"
  END-IF
END-IF
```

.CHECKS ON H3

```
IF H3<>VALID AND H3<>9
  MSG "H3 NOT VALID"
  IF URRU=2
    IMPUTE H3=3
    MSG "SOLVED"
  ELSE
    LET KITCHEN=3-KITCHEN
    IMPUTE H3=KITCHEN
    MSG "SOLVED"
  END-IF
END-IF
```

.CHECKS ON H4

```
IF H4<>VALID AND H4<>9
  MSG "H4 NOT VALID"
  IMPUTE H4=1
  MSG "SOLVED"
END-IF
```

```
IF H4=6 AND H2<>1
  MSG "UNLIKELY TO COOK WITH ELECTRICITY AND HAVE NO ELECTRIC LIGHT"
  IMPUTE H4=1
  MSG "SOLVED"
END-IF
```

.CHECKS ON H5

```
IF H5<>VALID AND H5<>9
  MSG "H5 NOT VALID"
  IF URRU=2
    IMPUTE H5=3
    MSG "SOLVED"
  ELSE
    LET BATH=3-BATH
    IMPUTE H5=BATH
    MSG "SOLVED"
  END-IF
END-IF
```

.CHECKS ON H6A

```
IF H6A<>VALID AND H6A<>9
  MSG "H6A NOT VALID"
  IF H6B=BLANK
    IMPUTE H6A=2
    MSG "SOLVED"
  ELSE
    IMPUTE H6A=1
    MSG "SOLVED"
  END-IF
END-IF
```

```
IF H6A=9
  IF H6B=BLANK
    IMPUTE H6A=2
    MSG "NS RECOVERED"
```

```
ELSE
    IMPUTE H6A=1
    MSG "NS RECOVERED"
END-IF
END-IF
```

.CHECKS ON H6B

```
IF H6A=2 AND H6B<>BLANK
    MSG "H6B SHOULD BE BLANK FOR H6A=2"
    IF H6B=1 OR H6B=2
        IMPUTE H6A=1
        MSG "SOLVED"
    ELSE
        IMPUTE H6B=BLANK
        MSG "SOLVED"
    END-IF
END-IF
```

```
IF H6A=1 AND H6B<>VALID AND H6B<>9
    MSG "H6B NOT VALID"
    LET TOILET=3-TOILET
    IMPUTE H6B=TOILET
    MSG "SOLVED"
END-IF
```

```
IF H6B=9
    IF H6A=2
        IMPUTE H6B=BLANK
        MSG "NS RECOVERED"
    END-IF
END-IF
```

.CHECKS ON H6C

```
IF H6C<>VALID AND H6C<>9
    MSG "H6C NOT VALID"
    IMPUTE H6C=7
    MSG "SOLVED"
END-IF
```

.CHECKS ON H7

```
IF H7<>VALID AND H7<>9
    MSG "H7 NOT VALID"
    IF H6C=1
        IMPUTE H7=1
        MSG "SOLVED"
    ELSE
        IMPUTE H7=7
        MSG "SOLVED"
    END-IF
END-IF
```

```
IF H7=9
    IF H6C=1
        IMPUTE H7=1
        MSG "NS RECOVERED"
    END-IF
END-IF
```

.CHECKS ON H8

```
IF H8<>VALID AND H8<>99
    MSG "H8 NOT VALID"
    IMPUTE H8=99
    MSG "SOLVED BY NS"
```

```

END-IF

.CHECKS ON H9A

DO VARYING IND FROM 1 BY 1
UNTIL IND>5
  IF H9A(1,IND)<>VALID AND H9A(1,IND)<>9
    MSG "H9A NOT VALID"
    IMPUTE H9A(1,IND)=9
    MSG "SOLVED BY NS"
  END-IF
END-DO

.CHECKS ON H9B

DO VARYING IND FROM 1 BY 1
UNTIL IND>5
  IF H9B(1,IND)<>VALID AND H9B(1,IND)<>99
    MSG "H9B NOT VALID"
    IMPUTE H9B(1,IND)=99
    MSG "SOLVED BY NS"
  END-IF
END-DO

ELSE
  IF H1A<>BLANK OR H1B<>BLANK OR H2<>BLANK OR H3<>BLANK OR H4<>BLANK OR
    H5<>BLANK OR H6A<>BLANK OR H6B<>BLANK OR H6C<>BLANK OR H7<>BLANK OR
    H8<>BLANK
    MSG "SOME DATA FOUND IN GRP HH MADE BLANK"
    IMPUTE H1A=BLANK
    IMPUTE H1B=BLANK
    IMPUTE H2=BLANK
    IMPUTE H3=BLANK
    IMPUTE H4=BLANK
    IMPUTE H5=BLANK
    IMPUTE H6A=BLANK
    IMPUTE H6B=BLANK
    IMPUTE H6C=BLANK
    IMPUTE H7=BLANK
    IMPUTE H8=BLANK
  END-IF
END-IF .GRP=1

END-SUBR SH

FOR-EACH (POP)

CALL FINDHHH

CALL SP00
CALL SP02
CALL SP03
CALL SP04
CALL SP05
CALL SP06
CALL SP07
CALL SP08
CALL SP09
CALL SP10A
CALL SP10B
CALL SP11A
CALL SP11B
CALL SP12
CALL SP13A
CALL SP13B
CALL SP14A
CALL SP14B
CALL SP15A

```

CALL SP15B
CALL SP15C
CALL SP15D
CALL SP16
CALL SP17
CALL SP18

IF P02=2 AND P03<>99 AND P03>=12 AND GRP=1 .WOMEN OVER 12, NORMAL HHH

IF (P19A=99 OR P19A=BLANK) AND
(P19B=99 OR P19B=BLANK) AND
(P19C=99 OR P19C=BLANK) AND
(P19D=99 OR P19D=BLANK) AND
(P19E=99 OR P19E=BLANK) AND
(P19F=99 OR P19F=BLANK) AND
(P19G=99 OR P19G=BLANK) AND
(P19H=99 OR P19H=BLANK) AND
(P20A=9 OR P20A=BLANK) AND
(P20B=9 OR P20B=BLANK) AND
(P20E=9 OR P20E=BLANK) AND
(P20F=9 OR P20F=BLANK)

MSG "***WOMEN WITH NO FERTILITY DATA AT ALL"

IF P19A<>99

IMPUTE P19A=99

MSG "P19A IMPUTED N/S"

END-IF

IF P19B<>99

IMPUTE P19B=99

MSG "P19B IMPUTED N/S"

END-IF

IF P19C<>99

IMPUTE P19C=99

MSG "P19C IMPUTED N/S"

END-IF

IF P19D<>99

IMPUTE P19D=99

MSG "P19D IMPUTED N/S"

END-IF

IF P19E<>99

IMPUTE P19E=99

MSG "P19E IMPUTED N/S"

END-IF

IF P19F<>99

IMPUTE P19F=99

MSG "P19F IMPUTED N/S"

END-IF

IF P19G<>99

IMPUTE P19G=99

MSG "P19G IMPUTED N/S"

END-IF

IF P19H<>99

IMPUTE P19H=99

MSG "P19H IMPUTED N/S"

END-IF

IF P20A<>9

IMPUTE P20A=9

MSG "P20A IMPUTED N/S"

END-IF

IF P20B<>9

IMPUTE P20B=9

MSG "P20B IMPUTED N/S"

END-IF

IF P20E<>9

IMPUTE P20E=9

MSG "P20E IMPUTED N/S"

END-IF

IF P20F<>9

IMPUTE P20F=9

MSG "P20F IMPUTED N/S"

END-IF


```

ELSE

    CALL SP19AB
    CALL SP19CD
    CALL SP19EF
    CALL SP19GH
    CALL SP20AB
    CALL SP20EF
    CALL SP19TOT
END-IF

END-IF

IF P02=1 OR P03<12
    CALL MAKEBLK
END-IF

CALL SP21AB

SUBROUTINE SP00

IF P00<> VALID
    MSG "NOT VALID P00"
    IMPUTE P00=REC-NUMBER
    MSG "SOLVED"
END-IF

.INTER-RECORD CHECKS

IF P00=1 AND P04(1)=1

    IF P02(1)=2 AND P04(1)=1

        LET X=0
        COUNT X FOR P02=1 AND P04=4
        IF P19C(1)=VALID AND X>P19C(1)
            MSG "WARNING MORE BOYS OF FEMALE HHH THAN DECLARED TO BE LIVING IN
HH"

            LET CHILDREN=X - P19C(1)
            DO VARYING IND FROM 1 BY 1
            UNTIL IND>CHILDREN
                DO VARYING IND2 FROM 1 BY 1
                UNTIL IND2=TYPE-COUNT(POP)
                    IF P04(IND2)=4 AND P02(IND2)=1
                        LET X=IND2
                    END-IF
                END-DO
            IMPUTE P04(X)=16
            MSG"* P04 OF LAST MALE CHILD MADE 16"
            END-DO
        END-IF

        LET X=0
        COUNT X FOR P02=2 AND P04=4
        IF P19D(1)=VALID AND X>P19D(1)
            MSG "WARNING MORE GIRLS OF FEMALE HHH THAN DECLARED TO BE LIVING
IN HH"

            LET CHILDREN=X - P19D(1)
            DO VARYING IND FROM 1 BY 1
            UNTIL IND>CHILDREN
                DO VARYING IND2 FROM 1 BY 1
                UNTIL IND2=TYPE-COUNT(POP)
                    IF P04(IND2)=4 AND P02(IND2)=2
                        LET X=IND2
                    END-IF
                END-DO
            END-DO
        END-IF
    END-IF

```

```

        IMPUTE P04(X)=16
        MSG"* P04 OF LAST FEMALE CHILD MADE 16"
        END-DO

    END-IF

    LET X=0
    COUNT X FOR P02=1 AND P04=4 AND P03=0
    IF X>P20E(1)
        MSG "MORE BOYS<1 YEAR LIVING WITH FEMALE HHH THAN BORN LAST YEAR"
        DO VARYING IND FROM 1 BY 1
        UNTIL IND>TYPE-COUNT(POP)
            IF P02(IND)=1 AND P04(IND)=4 AND P03(IND)=0
                IMPUTE P04(IND)=16
                MSG"* P04 OF BOYS IMPUTED 16"
            END-IF
        END-DO
    END-IF

    LET X=0
    COUNT X FOR P02=2 AND P04=4 AND P03=0
    IF X>P20F(1)
        MSG "MORE GIRLS<1 YEAR LIVING WITH FEMALE HHH THAN BORN LAST YEAR"
        DO VARYING IND FROM 1 BY 1
        UNTIL IND>TYPE-COUNT(POP)
            IF P02(IND)=2 AND P04(IND)=4 AND P03(IND)=0
                IMPUTE P04(IND)=16
                MSG"* P04 OF GIRLS IMPUTED 16"
            END-IF
        END-DO
    END-IF

    END-IF .FEMALE HHH

    END-IF .HHH

    END-SUBR SP00

SUBROUTINE SP02

    .CHECKS ON P02

    IF P02<>1 AND P02<>2
        MSG "NOT VALID P02"
    END-IF

    IF P02=1 AND (P19A<>BLANK OR P19B<>BLANK OR P19C<>BLANK OR P19D<>BLANK OR
        P19E<>BLANK OR P19F<>BLANK OR P19G<>BLANK OR P19H<>BLANK OR
        P20A<>BLANK OR P20B<>BLANK OR P20E<>BLANK OR P20F<>BLANK)
        MSG "MAN CANNOT HAVE FERTILITY DATA"

        LET X=0
        IF P19A<>BLANK
            LET X=X+1
        END-IF
        IF P19B<>BLANK
            LET X=X+1
        END-IF
        IF P19C<>BLANK
            LET X=X+1
        END-IF
        IF P19D<>BLANK
            LET X=X+1
        END-IF
        IF P19E<>BLANK
            LET X=X+1
        END-IF
        IF P19F<>BLANK

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```

      LET X=X+1
END-IF
IF P19G<>BLANK
  LET X=X+1
END-IF
IF P19H<>BLANK
  LET X=X+1
END-IF
IF P20A<>BLANK
  LET X=X+1
END-IF
IF P20B<>BLANK
  LET X=X+1
END-IF
IF P20E<>BLANK
  LET X=X+1
END-IF
IF P20F<>BLANK
  LET X=X+1
END-IF

IF X<=2
  IMPUTE P02=1
  MSG "*" SEX IMPUTED 1 (LESS THAN 3 ENTRIES IN P19/P20)"

IMPUTE P19A=BLANK
IMPUTE P19B=BLANK
IMPUTE P19C=BLANK
IMPUTE P19D=BLANK
IMPUTE P19E=BLANK
IMPUTE P19F=BLANK
IMPUTE P19G=BLANK
IMPUTE P19H=BLANK
IMPUTE P20A=BLANK
IMPUTE P20B=BLANK
IMPUTE P20E=BLANK
IMPUTE P20F=BLANK

ELSE
  IF P04=3 AND P04(1)=1
    IMPUTE P02=3-P02(1)
    MSG "*" SEX OF SPOUSE IMPUTED OPPOSITE OF HHH"
    IF P02=1
      IMPUTE P19A=BLANK
      IMPUTE P19B=BLANK
      IMPUTE P19C=BLANK
      IMPUTE P19D=BLANK
      IMPUTE P19E=BLANK
      IMPUTE P19F=BLANK
      IMPUTE P19G=BLANK
      IMPUTE P19H=BLANK
      IMPUTE P20A=BLANK
      IMPUTE P20B=BLANK
      IMPUTE P20E=BLANK
      IMPUTE P20F=BLANK
    END-IF
  END-IF

  IF P04=1
    LET SEX=2
    DO VARYING IND FROM 1 BY 1
    UNTIL IND>TYPE-COUNT(POP)
      IF P04(IND)=3
        LET SEX=P02(IND)
      END-IF
    END-DO
    IMPUTE P02=3-SEX

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```

MSG"* SEX OF HHH IMPUTED OPPOSITE OF SPOUSE"

IF P02=1
  IMPUTE P19A=BLANK
  IMPUTE P19B=BLANK
  IMPUTE P19C=BLANK
  IMPUTE P19D=BLANK
  IMPUTE P19E=BLANK
  IMPUTE P19F=BLANK
  IMPUTE P19G=BLANK
  IMPUTE P19H=BLANK
  IMPUTE P20A=BLANK
  IMPUTE P20B=BLANK
  IMPUTE P20E=BLANK
  IMPUTE P20F=BLANK
END-IF

END-IF

END-IF

IF P02=1 AND (P19A<>BLANK OR P19B<>BLANK OR P19C<>BLANK OR P19D<>BLANK OR
  P19E<>BLANK OR P19F<>BLANK OR P19G<>BLANK OR P19H<>BLANK OR
  P20A<>BLANK OR P20B<>BLANK OR P20E<>BLANK OR P20F<>BLANK)

  LET SX=3-SX
  IMPUTE P02=SX
  MSG"* SEX IMPUTED ALTERNATIVELY 1 AND 2"

END-IF

IF P02=1
  IMPUTE P19A=BLANK
  IMPUTE P19B=BLANK
  IMPUTE P19C=BLANK
  IMPUTE P19D=BLANK
  IMPUTE P19E=BLANK
  IMPUTE P19F=BLANK
  IMPUTE P19G=BLANK
  IMPUTE P19H=BLANK
  IMPUTE P20A=BLANK
  IMPUTE P20B=BLANK
  IMPUTE P20E=BLANK
  IMPUTE P20F=BLANK
END-IF

END-SUBR SP02

SUBROUTINE SP03

.CHECKS ON P03

IF P03<>VALID AND P03<>99
  MSG "NOT VALID P03"
END-IF

LET X=0
LET AGE=0

IF GRP=1 AND P04=1 AND P03<12
  LET X=X+1
  LET AGE=12
END-IF

IF GRP=1 AND P03<>99 AND P03(1)<>99 AND P04(1)=1
  IF P04=7

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```

        LET AGEHHH=P03 - 12
        IF P03(1)>AGEHHH
            LET X=X+1
            LET AGEHHH=P03(1)+18
            IF AGEHHH>AGE
                LET AGE=AGEHHH
            END-IF
        END-IF
    END-IF
END-IF

IF P03<>99 AND P03>=7
    DO VARYING IND FROM 1 BY 1
    UNTIL IND>31
        IF P14B=P14BP03(IND,1) AND P03<P14BP03(IND,2)
            LET X=X+1
            IF P14BP03(IND,2)>AGE
                LET AGE=P14BP03(IND,2)+2
            END-IF
        END-IF
    END-DO
END-IF

IF P03<>99 AND P03>=10
    DO VARYING IND FROM 1 BY 1
    UNTIL IND>10
        IF P16=P16P03(IND,1) AND P03<P16P03(IND,2)
            LET X=X+1
            IF P16P03(IND,2)>AGE
                LET AGE=P16P03(IND,2)
            END-IF
        END-IF
    END-DO
END-IF

IF P03<>99 AND P03>=12 AND P02=2
    IF P19A=VALID AND P19B=VALID
        LET CHILDREN=P19A+P19B
        DO VARYING IND FROM 1 BY 1
        UNTIL IND>21
            IF CHILDREN=P19ABP03(IND,1) AND P03<P19ABP03(IND,2)
                LET X=X+1
                IF P19ABP03(IND,2)>AGE
                    LET AGE=P19ABP03(IND,2)
                END-IF
            END-IF
        END-DO
    END-IF
END-IF

IF P03<>99 AND X<>0
    LET X=AGE - P03
    IF X<6
        IMPUTE P03=AGE
        MSG"*** AGE INCREASED BY LESS THAN 6YEARS"
    ELSE
        MSG"*** AGE NOT BEEN INCREASED SINCE MORE THAN 5 YEARS"
    END-IF
END-IF

IF GRP=1 AND P04=1 AND P03<12
    MSG "CHILD CANNOT BE HHH "

    DO VARYING IND FROM 1 BY 1
    UNTIL IND>TYPE-COUNT(POP)
        IF P04(IND)=7 AND P02(IND)=1
            MSG"* P04 MADE 4 AND P04 OF HHH MADE 1"
            IMPUTE P04=4
            IMPUTE P04(IND)=1
        END-IF
    END-DO
END-IF

```

```

        LET PX=1
        LET PH=IND
        CALL MOVEHHH
        IMPUTE P00(1)=1
        IMPUTE P00(PH)=PH
        END-IF
    END-DO

END-IF

IF GRP=1 AND P04=1 AND P03<12

    DO VARYING IND FROM 1 BY 1
    UNTIL IND>TYPE-COUNT(POP)
        IF P04(IND)=7 AND P02(IND)=2
            MSG"* P04 MADE 4 AND PARENTS MADE HHH"
            IMPUTE P04=4
            IMPUTE P04(IND)=1
            LET PX=1
            LET PH=IND
            CALL MOVEHHH
            IMPUTE P00(1)=1
            IMPUTE P00(PH)=PH
            END-IF
        END-DO
    END-IF

IF GRP=1 AND P04=1 AND P03<12

    DO VARYING IND FROM 1 BY 1
    UNTIL IND>TYPE-COUNT(POP)
        IF P04(IND)=8
            MSG"* P04 MADE 16 AND P04 OF PARENTS -HUSBAND /WIFE MADE HHH"
            IMPUTE P04=16
            IMPUTE P04(IND)=1
            LET PX=1
            LET PH=IND
            CALL MOVEHHH
            IMPUTE P00(1)=1
            IMPUTE P00(PH)=PH
            END-IF
        END-DO
    END-IF

.if grp=1 and p04=1 and p03<12 and cncr=0
.    impute p03=99
.    msg"* age imputed n/s in LAST CONCOR"
.end-if

IF GRP=1 AND P04=1 AND P03<12
    IF P05=1
        MSG"* P04 OF SINGLE MADE 2"
        IMPUTE P04=2
    ELSE
        IMPUTE P04=99
        MSG"* P04 OF NOT SINGLE MADE N/S"
    END-IF
END-IF

END-SUBR SP03

SUBROUTINE SP04

.CHECKS ON P04

    LET X=0
    COUNT X FOR P04=3
    IF X>1 AND P06(1)<>2 AND P04(1)=1

```

```

MSG "MORE THAN ONE SPOUSE IMPLIES HHH POLYGAM"
MSG"* TYPE OF UNION IMPUTED 2"
IMPUTE P06(1)=2
END-IF

LET X=0
COUNT X FOR P04=7 AND P02=1
IF X>1
  MSG "MORE THAN ONE FATHER OF HHH"
  LET PX=0
  LET AGE=0
  DO VARYING IND FROM 1 BY 1
  UNTIL IND>TYPE-COUNT(POP)
    IF P04(IND)=7 AND P02(IND)=1 AND P03(IND)<>99 AND P03(IND)>AGE
      LET PX=IND
      LET AGE=P03(IND)
    END-IF
  END-DO

  DO VARYING IND FROM 1 BY 1
  UNTIL IND>TYPE-COUNT(POP)
    IF P04(IND)=7 AND P02(IND)=1 AND PX<>IND AND PX<>0
      IMPUTE P04(IND)=16
      MSG "*" ELDEST FATHER KEPT, OTHERS IMPUTED 16 FOR P04"
    END-IF
  END-DO

END-IF

LET X=0
COUNT X FOR P04=7 AND P02=2
IF X>1
  MSG "MORE THAN ONE MOTHER OF HHH"
  LET PX=0
  LET AGE=0
  DO VARYING IND FROM 1 BY 1
  UNTIL IND>TYPE-COUNT(POP)
    IF P04(IND)=7 AND P02(IND)=2 AND P03(IND)>AGE
      LET PX=IND
      IF P03(IND)<>99
        LET AGE=P03(IND)
      END-IF
    END-IF
  END-DO

  DO VARYING IND FROM 1 BY 1
  UNTIL IND>TYPE-COUNT(POP)
    IF (P04(IND)=7 AND P02(IND)=2 AND PX<>IND AND PX<>0)
      IMPUTE P04(IND)=16
      MSG "*" ELDEST MOTHER KEPT, OTHERS IMPUTED 16 FOR P04"
    END-IF
  END-DO

END-IF

IF GRP=1 AND P04<>VALID AND P04<>99
  MSG "NOT VALID P04 IN NORMAL HH"
  IMPUTE P04=99
  MSG "*" RELATIONSHIP IMPUTED N/S"
END-IF

IF GRP=2 AND P04<>BLANK
  MSG "NOT VALID P04 IN GROUP HH"
  IMPUTE P04=BLANK
  MSG "*" RELATIONSHIP IMPUTED BLANK"
END-IF

```

```

IF (P04=1 OR P04=2) AND P00<>1
  MSG "HEAD OF HH NOT FIRST PERSON OR DUPLICATED HHH"

  IF P04(1)=1 OR P04(1)=2
    IMPUTE P04=99
    MSG " * SECOND HHH MADE NS"
  END-IF

END-IF

IF GRP=1 AND P00=1 AND (P04<>1 AND P04<>2)
  MSG "FIRST PERSON IN NORMAL HH NOT HEAD OF HH"
  MSG " * SUBROUTINE FINDHHH IS CALLED"
  CALL FINDHHH
END-IF

IF GRP=1 AND P03<>99 AND P03(1)<>99 AND P04(1)=1

  IF P04=4
    LET AGEHHH=P03+12
    IF P03(1)<AGEHHH
      MSG "SON OR DAUGHTER OF HHH TOO OLD"
      MSG " * P04 MADE 16"
      IMPUTE P04=16
    END-IF
  END-IF

  IF P04=5 OR P04=6
    LET AGEHHH=P03+24
    IF P03(1)<AGEHHH
      MSG "GRAND SON OR GRAND DAUGHTER OF HHH TOO OLD"
      MSG " * P04 MADE 16"
      IMPUTE P04=16
    END-IF
  END-IF

  IF P04=7
    LET AGEHHH=P03 - 12
    IF P03(1)>AGEHHH
      MSG "FATHER OR MOTHER OF HHH TOO YOUNG"
      MSG " * P04 MADE 16"
      IMPUTE P04=16
    END-IF
  END-IF

  IF P04=12 OR P04=13
    LET AGEHHH=P03 - 24
    IF P03(1)>AGEHHH
      MSG "GRAND FATHER OR GRAND MOTHER OF HHH TOO YOUNG"
      MSG " * P04 MADE 16"
      IMPUTE P04=16
    END-IF
  END-IF

  IF P04=3 AND P02=P02(1) AND P04(1)=1
    MSG "HHH AND SPOUSE OF HHH SAME SEX"
    MSG " * P04 MADE N/S"
    IMPUTE P04=99
  END-IF

  IF P04=3 AND P05(1)<>2 AND P04(1)=1
    MSG "SPOUSE OF HHH IS FOUND IN HH, HHH SHOULD BE MARRIED"
    IF P06=BLANK
      IMPUTE P04=99
      MSG " * P04 OF SPOUSE IMPUTED N/S"
    END-IF
  END-IF

```



```

IF P04=3 AND P05(1)<>2 AND P04(1)=1
  IF P05=2
    IMPUTE P05(1)=2
    MSG"* HHH IMPUTED MARRIED"
  END-IF
END-IF

IF P04=3 AND P05(1)<>2 AND P04(1)=1
  IMPUTE P04=99
  MSG"* P04 OF WIFE MADE NS"
END-IF

IF P04=3 AND P06<>P06(1) AND P04(1)=1 AND P05(1)<>1 AND P05<>1
  MSG "SPOUSE OF HHH MUST HAVE SAME TYPE OF UNION THAN HHH"

  IF P06(1)=9 AND P06<>9
    IMPUTE P06(1)=P06
    MSG"* TYPE OF UNION OF HHH IMPUTED SAME AS SPOUSE"
  ELSE
    IMPUTE P06=P06(1)
    MSG "* TYPE OF UNION OF SPOUSE IMPUTED SAME AS HHH"
  END-IF

END-IF

END-IF

END-IF

IF P04=4 AND P03=0 AND P02=1 AND P02(1)=2 AND P04(1)=1 AND P20E(1)=0
  MSG "MALE CHILD<1 YEAR FOUND AND NOT REPORTED IN FEMALE HHH DATA"
  IMPUTE P04=16
  MSG "* P04 IMPUTED 16"
END-IF

IF P04=4 AND P03=0 AND P02=2 AND P02(1)=2 AND P04(1)=1 AND P20F(1)=0
  MSG "FEMALE CHILD<1 YEAR FOUND AND NOT REPORTED IN FEMALE HHH DATA"
  IMPUTE P04=16
  MSG "* P04 IMPUTED 16"
END-IF

IF CNCR=0 AND P04=3 AND P06<>P06(1) AND P04(1)=1 AND P05(1)<>1 AND P05<>1
  MSG"TYPE OF UNION SPOUSE OF HHH AND HHH REMAIN DIFFERENT"
  IMPUTE P06=9
  IMPUTE P06(1)=9
  MSG "##### HOPELESS CASE P06 AND P06(1) MADE N/S"
END-IF

END-SUBR SP04

segment

SUBROUTINE SP05

.CHECKS ON P05

IF P05<>VALID AND P05<>9
  MSG "P05 NOT VALID"

  IF P04=3
    IMPUTE P05=2
    MSG "SOLVED"
  END-IF

  IF P03<12 AND P03<>99
    IMPUTE P05=1
    MSG"SOLVED"
  END-IF

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```

        IF P05<>VALID AND P05<>9
            IMPUTE P05=9
            MSG "SOLVED BY NS"
        END-IF
    END-IF

    IF P05=9 AND P06=BLANK
        IMPUTE P05=1
        MSG "NS RECOVERED"
    END-IF
    IF P05=9 AND P04=3
        IMPUTE P05=2
        MSG "NS RECOVERED"
    END-IF
    IF P05=9 AND P04=1
        COUNT X FOR P04=3
        IF X<>0
            IMPUTE P05=2
            MSG "NS RECOVERED"
        END-IF
    END-IF

    IF P03<12 AND P05<>1
        MSG "CHILD UNDER 12 MUST BE NEVER MARRIED"
        IF P14A=2 AND P14B<=11
            IMPUTE P05=1
            MSG "* SINGLE IF ATTENDING IN PRIMARY SCHOOL"
        END-IF
    END-IF

    IF P04=3 AND P05<>2
        MSG "WIFE OR HUSBAND MUST BE MARRIED"

        IF P05(1)=2 AND P04(1)=1
            IMPUTE P05=2
            MSG "* SPOUSE IMPUTED MARRIED"
        END-IF
        IF P05(1)<>2 AND P04(1)=1
            IMPUTE P04=16
            MSG "* P04 IMPUTED 16"
        END-IF
        IF P04(1)<>1
            IMPUTE P04=16
            MSG "* HHH IS TEMPORARY, SPOUSE MADE P04=16"
        END-IF
    END-IF

    IF CNCR=0 AND P04=3 AND P05<>2
        MSG "WIFE OR HUSBAND REMAINS NOT MARRIED"
        IMPUTE P04=9
        IMPUTE P05=9
        MSG "##### HOPELESS CASE: P04 AND P05 MADE N/S"
    END-IF

END-SUBR SP05

SUBROUTINE SP06

.CHECKS ON P06

    IF P06<>VALID AND P06<>BLANK AND P06<>9
        MSG "P06 NOT VALID"

        .IF P04=3 AND P04(1)=1
            .IMPUTE P06=P06(1)
            .MSG "SOLVED"
            .END-IF
    
```

```

IF P04=1
  DO VARYING IND FROM 1 BY 1
  UNTIL IND>TYPE-COUNT(POP)
    IF P04(IND)=3
      IMPUTE P06=P06(IND)
      MSG "SOLVED"
    END-IF
  END-DO
END-IF

IF P06<>VALID AND P06<>9 AND P06 <>BLANK
  IMPUTE P06=9
  MSG"SOLVED BY NS"
END-IF
END-IF

IF P06=9 AND P04=1
  COUNT X FOR P04=3
  IF X>1
    IMPUTE P06=2
    MSG"NS RECOVERED"
  END-IF
END-IF

IF P06=9 AND P04=1
  DO VARYING IND FROM 1 BY 1
  UNTIL IND>TYPE-COUNT(POP)
    IF P04=3
      IMPUTE P06=P06(IND)
      MSG "NS RECOVERED"
    END-IF
  END-DO
END-IF

IF P06=9 AND P04(1)=1 AND P04=3
  IMPUTE P06=P06(1)
  MSG"NS RECOVERED"
END-IF

IF P06<>BLANK AND P03<12
  MSG "CHILD CAN BE NEITHER MONO NOR POLYGAMIST"
  IF P05=1
    IMPUTE P06=BLANK
    MSG "*" P06 IMPUTED BLANK SINCE SINGLE"
  END-IF
  IF P05=2 AND P02=1 AND P06<>1
    IMPUTE P06=1
    MSG "*" P06 IMPUTED MONOGAMIST FOR MARRIED MALE CHILD"
  END-IF
END-IF

IF P06=BLANK AND P05<>1
  MSG "P06 CAN ONLY BE BLANK FOR SINGLE"
  IF P04=3
    IF P04(1)<>1
      IMPUTE P06=9
      MSG"* P06 IMPUTED N/S"
    ELSE
      IMPUTE P06=P06(1)
      MSG"* P06 IMPUTED SAME AS HHH"
    END-IF
  END-IF
  IF P04=1
    COUNT X FOR P04=3
    IF X>1
      IMPUTE P06=2
      MSG"* P06 IMPUTED 2"
    ELSE
      IMPUTE P06=9
      MSG"* P06 IMPUTED NS"
    END-IF
  END-IF

```

```

        END-IF
        IF P04<>1 AND P04<>3
            IMPUTE P06=9
            MSG"* P06 IMPUTED N/S"
        END-IF

END-IF

IF P05=1 AND P06=9
    MSG "NEVER MARRIED CAN ONLY BE BLANK IN P06"
    IF P04<>3
        IMPUTE P06=BLANK
        MSG "*" P06 IMPUTED BLANK"
    ELSE
        IMPUTE P05=2
        IF P04(1)=1
            IMPUTE P06=P06(1)
            MSG"* P05 IMPUTED 1 AND P06 SAME AS HHH"
        END-IF
    END-IF
END-IF

IF (P06=1 OR P06=2) AND P05=1
    MSG "MONO OR POLY GAMIST CANNOT BE NEVER MARRIED"
    IF P04=3
        IMPUTE P05=2
        MSG"* P05 IMPUTED 2"
    END-IF
    IF P04=1
        COUNT X FOR P04=3
        IF X<>0
            IMPUTE P05=2
            MSG"* P05 IMPUTED 2"
        ELSE
            IMPUTE P05=9
            MSG "*" P05 IMPUTED 9"
        END-IF
    END-IF
    IF P04<>1 AND P04<>3
        IMPUTE P06=9
        MSG "*" P06 IMPUTED NS"
    END-IF
END-IF

IF CNCR=0 AND P06=BLANK AND P05<>1
    MSG"P06 REMAINS BLANK FOR SINGLE"
    IMPUTE P05=9
    IMPUTE P06=9
    MSG "##### HOPELESS CASE: P05 AND P06 MADE N/S"
END-IF

IF CNCR=0 AND P05=1 AND P06=9
    MSG "P06 REMAINS NOT BLANK FOR SINGLE"
    IMPUTE P05=9
    IMPUTE P06=9
    MSG "##### HOPELESS CASE: P05 AND P06 MADE N/S"
END-IF

END-SUBR SP06

SUBROUTINE SP07

.CHECK ON P07

IF P07<>VALID AND P07<>99
    MSG "P07 NOT VALID"

    IMPUTE P07=P07(1)

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```

MSG "SOLVED"

IF P07<>VALID AND P07<>99
    IMPUTE P07=99
    MSG"SOLVED BY NS"
END-IF
END-IF

IF P07=99 AND P08=BLANK
    IMPUTE P07=00
    MSG "NS RECOVERED"
END-IF

END-SUBR SP07

SUBROUTINE SP08

.CHECKS ON P08

IF P07=0 and P08<>VALID AND P08<>99
    MSG "P08 NOT VALID"

    IMPUTE P08=P08(1)
    MSG "SOLVED"

    IF P07=0 AND P08<>VALID AND P08 <>99
        IMPUTE P08=99
        MSG"SOLVED BY NS"
    END-IF
END-IF

IF P07<> 0 AND P07 <>99 AND P08<>BLANK
    MSG "FOREIGNERS SHOULD NOT HAVE ETHNIC DATA"
    IMPUTE P08=BLANK
    MSG"* P08 MADE BLANK"
END-IF

END-SUBR SP08

SUBROUTINE SP09

. CHECKS ON P09

IF P09<>VALID AND P09<>9
    MSG "P09 NOT VALID"

    IMPUTE P09=P09(1)
    MSG "SOLVED"

    IF P09<>VALID AND P09<>9
        IMPUTE P09=9
        MSG"SOLVED BY NS"
    END-IF
END-IF

END-SUBR SP09

SUBROUTINE SP10A

. CHECKS ON P10A

IF P10A<>VALID AND P10A<>99
    MSG "P10A NOT VALID"

    IF P10A(1)=0
        IMPUTE P10A=00
        MSG "SOLVED"

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```

END-IF

IF P10A<>VALID AND P10A<>99
    IMPUTE P10A=99
    MSG"SOLVED BY NS"
END-IF
END-IF

IF P10A=99 AND P11A=00 AND P12=BLANK
IMPUTE P10A=00
IMPUTE P10B=BLANK
MSG "N/S RECOVERED"
END-IF

END-SUBR SP10A

SUBROUTINE SP10B

.CHECKS ON P10B

IF P10A<>0 AND P10A<=73 AND P10B<>VALID AND P10B<>9
    MSG "P10B NOT VALID"
    IMPUTE P10B=9
    MSG"SOLVED BY NS"
END-IF

IF P10A=00 AND P10B<>BLANK
    MSG "BIRTH PLACE IN SAME PLACE IMPLIES P10B = BLANK"
    MSG"* P10B IMPUTED BLANK"
    IMPUTE P10B=BLANK
END-IF

END-SUBR SP10B

SUBROUTINE SP11A

.CHECKS ON P11A

IF P11A<>VALID AND P11A<>99
    MSG "P11A NOT VALID"

    IF P11A=00
        IMPUTE P11A=00
        MSG "SOLVED"
    END-IF

    IF P11A(1)=00
        IMPUTE P11A=00
        MSG "SOLVED"
    END-IF

    IF P11A<>VALID AND P11A<>99
        IMPUTE P11A=99
        MSG"SOLVED BY NS"
    END-IF
END-IF

IF P11A=99 AND P10A=00 AND P12=BLANK
IMPUTE P11A=00
IMPUTE P11B=BLANK
MSG "N/S RECOVERED"
END-IF

END-SUBR SP11A

```

SUBROUTINE SP11B

.CHECKS ON P11B

IF P11A<>0 AND P11A<=73 AND P11B<>VALID AND P11B<>9

MSG "P11B NOT VALID"

IMPUTE P11B=9

MSG"SOLVED BY NS"

END-IF

IF P11A=00 AND P11B<>BLANK

MSG "PREVIOUS RESIDENCE IN SAME PLACE IMPLIES P11B = BLANK"

MSG"* P11B IMPUTED BLANK"

IMPUTE P11B=BLANK

END-IF

END-SUBR SP11B

SUBROUTINE SP12

.CHECKS ON P12

IF P11A<>0 AND P12<>VALID AND P12<>99

MSG "P12 NOT VALID"

IF P12>60

IMPUTE P12=60

MSG"SOLVED"

END-IF

IF P11A<>0 AND P12<>VALID AND P12 <>99 AND P04(1)=1

IMPUTE P12=P12(1)

MSG"SOLVED"

END-IF

IF P11A<>0 AND P12<>VALID AND P12 <>99

IMPUTE P12=99

MSG"SOLVED BY NS"

END-IF

END-IF

IF P11A=00 AND P12<>BLANK

MSG "PREVIOUS RESIDENCE IN SAME PLACE IMPLIES P12=BLANK"

IMPUTE P12=BLANK

MSG"* P12 IMPUTED BLANK"

END-IF

IF P12=VALID

LET X=P12/12

IF X>P03

MSG "DURATION OF STAY LONGER THAN AGE"

IF P03<6

LET X=P03*12

IMPUTE P12=X

MSG"SOLVED"

END-IF

END-IF

END-IF

END-SUBR SP12

SUBROUTINE SP13A

IF P03>=10 AND P03<>99 .AGE OVER 10

.CHECKS ON P13A

```

IF P13A<>VALID AND P13A<>9
  MSG "P13A NOT VALID"

  IF P14B<>99 AND P14B<>BLANK AND P14B>=4
    IMPUTE P13A=1
    MSG"SOLVED"
  END-IF

  IF P13A<>VALID AND P13A<>9 AND
    P14B<>99 AND P14B <> BLANK AND P14B <4 AND P14B>=2
    IMPUTE P13A=2
    MSG"SOLVED"
  END-IF

  IF P13A<>VALID AND P13A<>9 AND P14A=1
    IMPUTE P13A=3
    MSG"SOLVED"
  END-IF

  IF P13A <>VALID AND P13A <>9
    IMPUTE P13A=9
    MSG"SOLVED BY NS"
  END-IF
END-IF

IF P13A=9 AND P15A=5
  IMPUTE P13A=1
  MSG "N/S RECOVERED IF STUDENT (>10 YRS)"
END-IF

  IF P13A<>1 AND P14B>6 AND P14B<81 AND P14B<>BLANK AND P03<>99 AND
P03>=10
    MSG" CANNOT READ/WRITE ALTHOUGH HAS GONE TO SECONDARY SCHOOL"
    IMPUTE P13A=1
    MSG"* P13A IMPUTED 1 (CAN READ/WRITE)"
  END-IF

  IF P13A<>1

    DO VARYING IND FROM 1 BY 1
    UNTIL IND>86
      IF P16=P16P03(IND,1) AND P16P03(IND,3)=1
        IMPUTE P13A=1
        MSG "OCCUPATION REQUIRES TO READ AND WRITE"
        MSG"***** P13A MIGHT BE IMPUTED 1 (CAN READ/WRITE)"
      END-IF
    END-DO
  END-IF

  IF P13A<>3 AND P13B=BLANK
    MSG "P13B SHOULD NOT BE BLANK FOR P13A<>3"
    IMPUTE P13B=9
    MSG "*" P13B IMPUTED NS"
  END-IF

END-IF .AGE OVER 10

IF P03<10

  IF P13A<>BLANK
    MSG"P13A SHOULD BE BLANK FOR AGE <10"
    impute p13a=blank
    MSG"* P13A IMPUTED BLANK FOR AGE <10"
  END-IF

END-IF

END-SUBR SP13A

```


SUBROUTINE SP13B

IF P03>=10 AND P03<>99 .AGE OVER 10

. CHECKS ON P13B

IF P13A<>3 AND P13B<>VALID AND P13B<>9
MSG "P13B NOT VALID"

IF P14B>=2 AND P14B<>99 AND P14B<>BLANK
IMPUTE P13B=2
MSG"SOLVED"

ELSE
IMPUTE P13B=9
MSG"SOLVED BY NS"

END-IF
END-IF

IF P13B=9 AND P14B>6 AND P14B<81 AND P14B<>BLANK AND P03<>99 AND P03>=10
IMPUTE P13B=2
MSG"N/S RECOVERED"
END-IF

IF P13B=9

DO VARYING IND FROM 1 BY 1
UNTIL IND>86
IF P16=P16P03(IND,1) AND P16P03(IND,3)=1
IMPUTE P13B=2
MSG "N/S RECOVERED"

END-IF
END-DO
END-IF

IF P13A=3 AND P13B<>BLANK
MSG "SCRIPT IS NOT BLANK ALTHOUGH CANNOT READ/WRITE"
IMPUTE P13B=BLANK
MSG "*P13B IMPUTED BLANK WHEN CANNOT READ/WRITE"
END-IF

END-IF .AGE >=10

IF P03<10

IF P13B<>BLANK
MSG "P13B NOT BLANK FOR AGE<10 "
IMPUTE P13B=BLANK
MSG "*P13B IMPUTED BLANK FOR AGE <10"
END-IF

END-IF .AGE<10

END-SUBR SP13B

SUBROUTINE SP14A

IF P03>=7 AND P03<>99 .AGE OVER 7

.CHECKS ON P14A

IF P14A<>VALID AND P14A<>9
MSG "P14A NOT VALID"

IF P14B=BLANK
IMPUTE P14A=1
MSG"SOLVED"

END-IF

```

IF (P15A=5 OR P03<10) AND P14B<>BLANK
    IMPUTE P14A=2
    MSG "SOLVED"
END-IF

IF P15A<>5 AND P14B<>BLANK AND P03>=10
    IMPUTE P14A=3
    MSG "SOLVED"
END-IF

IF P14A<>VALID AND P14A<>9
    IMPUTE P14A=9
    MSG "SOLVED BY NS"
END-IF
END-IF

IF P14A=9 AND P15A=5
    IMPUTE P14A=2
    MSG "N/S RECOVERED"
END-IF
IF P14A=9 AND P15A<>5 AND P15A<>9 AND P03<>99 AND P03>=10
    IF P14B<>BLANK AND P14B<>0 AND P14B<>99
        IMPUTE P14A=3
        MSG "N/S RECOVERED"
    END-IF
    IF P14B=BLANK
        IMPUTE P14A=1
        MSG "N/S RECOVERED"
    END-IF
END-IF
END-IF

IF P14A=1 AND P14B<>BLANK
    MSG "P14B SHOULD BE BLANK IF NEVER BEEN TO SCHOOL"
    IF P15A=1 OR P15A=2 OR P15A=3 OR P15A=4 OR P15A=6
        IMPUTE P14A=2
        MSG "* P14A IMPUTED 3 (PAST)"
    END-IF
    IF P15A=9
        IF P16<>BLANK
            IMPUTE P14A=3
            MSG "* P14A IMPUTED 3 IF P15A=9 AND P16<>BLANK"
        ELSE
            IMPUTE P14A=2
            MSG "* P14A IMPUTED 2 IF P15A=9 AND P16=BLANK"
        END-IF
    END-IF
END-IF
IF P15A=5 OR P03<10
    IMPUTE P14A=2
    MSG "* P14A IMPUTED 2 IF STUDENT OR <10 YRS"
END-IF
END-IF

IF P14A=2 AND P15A<>5 AND P03>=10

    MSG "ATTENDING SCHOOL NOW IS NOT STUDENT"

    IF (P15A=4 OR P15A=6 OR P15A=9) AND (P15B=9 OR P15B=BLANK) AND
        (P15C=9 OR P15C=BLANK)
        IMPUTE P15A=5
        MSG "* P15A IMPUTED STUDENT (5) IF P15B=9 AND P15C=9"
    END-IF
END-IF

IF P14A=2 AND P15A<>5 AND P03>=10

    IF (P15A=1 OR P15A=2) AND (P15D<>99 AND P15D<>BLANK AND P15D<>0)
        IF P14B<>BLANK AND P14B<>0 AND P14B<>99
            IMPUTE P14A=3
            MSG "* P14A MADE 3 (PAST) FOR P14A INDICATES LEVEL"
        END-IF
    END-IF
END-IF

```

```

        END-IF
        IF P14B=BLANK
            IMPUTE P14A=1
            MSG"* P14A MADE 1 (NEVER) IF P14B INDICATES NO LEVEL"
        END-IF
    END-IF

END-IF

IF P14A=2 AND P15A<>5 AND P03>=10

    IF P15A=3 and p15c=2
        IF P14B<>BLANK AND P14B<>0 AND P14B<>99
            IMPUTE P14A=3
            MSG " " P14A MADE 3 (PAST) FOR P14A INDICATES LEVEL"
        END-IF
        IF P14B=BLANK
            IMPUTE P14A=1
            MSG"* P14A MADE 1 (NEVER) IF P14B INDICATES NO LEVEL"
        END-IF
    END-IF

END-IF

IF P14A=2 AND P15A<>5 AND P03>=10 AND P03<>99

    DO VARYING IND FROM 1 BY 1
    UNTIL IND >31
        IF P14B=P14BP03(IND,1) AND P03<>99 AND P03>=P14BP03(IND,2) AND
            P03<=P14BP03(IND,3)
            IMPUTE P15A=5
            MSG " " AGE/LEVEL MAKE IT LIKELY TO BE(COME) STUDENT"
        END-IF
    END-DO
END-IF

IF P14A=2 AND P15A<>5 AND P03>=10
    IF P16=BLANK AND P17=BLANK AND P18=BLANK
        IMPUTE P15A=5
        MSG " " P15A IMPUTED 5 SINCE P16/17/18 =BLANK"
    ELSE
        IF P14B<>BLANK AND P14B<>0 AND P14B<>99
            IMPUTE P14A=3
            MSG " " P14A MADE 3 (PAST) IF P16/17/18 <>BLANK AND P14B VALID"
        END-IF
        IF P14B=BLANK
            IMPUTE P14A=1
            MSG"* P14A MADE 1 (NEVER) IF P16/17/18 <>BLANK AND P14B NO
LEVEL"
        END-IF
    END-IF
END-IF

IF P14A<>2 AND P15A=5 AND P03>=10 AND P03<>99
    MSG "STUDENT IS NOT ATTENDING"
    IF P15B=BLANK AND P15C=BLANK AND P15D=BLANK
        IMPUTE P14A=2
        MSG"* P14A OF STUDENT IMPUTED 2 IF P15-BCD = BLANK"
    END-IF
    IF P16=BLANK AND P17=BLANK AND P18=BLANK
        IMPUTE P14A=2
        MSG " " P14A IMPUTED 2 IF P16/17/18 = BLANK"
    ELSE
        IF P15D>=15 AND P15D<>99
            IMPUTE P15A=1
            MSG " " P15A MADE 1 IF P15D>15"
        END-IF
        IF P15D>0 AND P15D<15
            IMPUTE P15A=4

```

```

        MSG "*" P15A MADE 4 IF P15D<15"
      END-IF
    END-IF
  END-IF

END-IF

IF P03<7 and p14a<>blank
  MSG "P14A SHOULD BE BLANK FOR AGE<7"
  IMPUTE P14A=BLANK
  MSG "*" P14A IMPUTED BLANK FOR AGE <7"
END-IF

END-SUBR SP14A

SUBROUTINE SP14B
  .CHECKS ON P14B

IF P03>=7 AND P03<>99 .AGE OVER 7

  IF P14A<>1 AND P14B<>VALID AND P14B<>99
    MSG "P14B NOT VALID"

    IF P14A=1
      IMPUTE P14B=BLANK
      MSG "SOLVED"
    ELSE
      IMPUTE P14B=99
      MSG "SOLVED BY NS"
    END-IF

  END-IF

  IF P14B=BLANK AND P14A<>1
    MSG "P14B CANNOT BE BLANK IF EVER BEEN TO SCHOOL"
    IMPUTE P14B=9
    MSG "*" P14B MADE N/S"
  END-IF

  IF P03<>99 AND P03>=7
    DO VARYING IND FROM 1 BY 1
      UNTIL IND>31
        IF P14B=P14BP03(IND,1) AND P03<P14BP03(IND,2)
          MSG "LEVEL OF INSTRUCTION TOO HIGH COMPARED TO AGE"
          IMPUTE P14B=99
          MSG "*" LEVEL OF EDUCATION MADE N/S"
        END-IF
      END-DO
    END-IF

  END-IF .AGE OVER 7

IF P03<7 AND P14B<>BLANK
  MSG "P14B SHOULD BE BLANK FOR AGE <7 OR N/S"
  IMPUTE P14B=BLANK
  MSG "*" P14B IMPUTED BLANK FOR LESS THAN 7 YRS OLD"
END-IF .AGE<7

END-SUBR SP14B

SUBROUTINE SP15A

IF P03>=10 AND P03<>99 .AGE OVER 10

  .CHECKS ON P15A

  IF P15A<>VALID AND P15A<>9

```

```

MSG "P15A NOT VALID"

IF P15B=BLANK
    IMPUTE P15A=3
    MSG "SOLVED"
END-IF

IF P15A<>VALID AND P15A<>9 AND P15B=BLANK AND P15C=BLANK
    IMPUTE P15A=1
    MSG "SOLVED"
END-IF

IF P15A<>VALID AND P15A <>9 AND
    P15B=BLANK AND P15C=BLANK AND P15D=BLANK
    IMPUTE P15A=2
    MSG "SOLVED"
END-IF

IF P15A<>VALID AND P15A<>9 AND P15B=BLANK AND P15C=BLANK AND
    P15D=BLANK AND P16=BLANK AND P17=BLANK AND P18=BLANK
    IMPUTE P15A=5
    MSG "SOLVED"
END-IF

IF P15A<>VALID AND P15A<>9
    IMPUTE P15A=9
    MSG "SOLVED BY NS"
END-IF
END-IF

IF P15A=9 AND P15D>=15 AND P15D<>99
    IMPUTE P15A=1
    MSG "N/S RECOVERED"
END-IF
IF P15A=9 AND P15B=BLANK AND (P15C=1 OR P15C=2)
    IMPUTE P15A=3
    MSG "N/S RECOVERED"
END-IF
IF P15A=9 AND P15B=2 AND P15C=2
    IMPUTE P15A=4
    MSG "N/S RECOVERED"
END-IF
IF P15A=9 AND P15B=1 AND P15D<15 AND P15D<>99
    IMPUTE P15A=4
    MSG "N/S RECOVERED"
END-IF
IF P15A=9 AND P14A=2
    IMPUTE P15A=5
    MSG "N/S RECOVERED"
END-IF

IF P15A=5 AND P14A<>2
    MSG "STUDENT SHOULD ATTEND SCHOOL"
    IMPUTE P15A=1
    MSG "** P15A CHANGED FROM 5 TO 1 FOR CASES LEFT"
END-IF

IF CNCR=0 AND P14A=2 AND P15A<>5
    MSG "ATTENDING SCHOOL NOW REMAINS NOT STUDENT"
    IMPUTE P14A=9
    IMPUTE P15A=9
    MSG "##### HOPELESS CASE: P14A AND P15A MADE N/S"
END-IF
END-IF

IF P03<10 AND P15A<>BLANK
    MSG "P15A SHOULD BE BLANK FOR AGE < 10"
    IMPUTE P15A=BLANK

```

```
MSG "*" P15A IMPUTED BLANK"  
END-IF
```

```
END-SUBR SP15A
```

```
SUBROUTINE SP15B
```

```
IF P03>=10 AND P03<>99 .AGE OVER 10
```

```
.CHECKS ON P15B
```

```
IF P15B=BLANK AND (P15A=4 OR P15A=6)  
MSG "P15B SHOULD NOT BE BLANK FOR P15A=4 OR P15A=6"  
IMPUTE P15B=9  
MSG "*" P15B MADE NS"  
END-IF
```

```
IF P15B<>BLANK AND P15A<>4 AND P15A<>6 AND P15A<>9  
MSG "P15B SHOULD BE BLANK FOR P15A<>4 OR 6 OR 9"  
IMPUTE P15B=BLANK  
MSG "*"P15B IMPUTED BLANK"  
END-IF
```

```
IF P15A<>1 AND P15A<>2 AND P15A <>3 AND P15A<>5
```

```
IF P15B <>VALID AND P15B <>9  
MSG "P15B NOT VALID"
```

```
IF P15C=BLANK  
IMPUTE P15B=1  
MSG"SOLVED"
```

```
ELSE  
IMPUTE P15B=2  
MSG"SOLVED"
```

```
END-IF
```

```
IF P15B<>VALID AND P15B<>9  
IMPUTE P15B=9  
MSG"SOLVED BY NS"
```

```
END-IF
```

```
END-IF
```

```
END-IF .P15A=4 OR 6 OR 99
```

```
IF P15B=9 AND P15D<>0 AND P15D<>99 AND P15D<>BLANK  
IMPUTE P15B=1  
MSG "N/S RECOVERED"
```

```
END-IF
```

```
IF P15B=9 AND (P15C=1 OR P15C=2)  
IMPUTE P15B=2  
MSG "N/S RECOVERED"
```

```
END-IF
```

```
END-IF
```

```
IF P03<10 AND P15B<>BLANK  
MSG "P15B SHOULD BE BLANK FOR AGE < 10"  
IMPUTE P15B=BLANK  
MSG "*" P15B IMPUTED BLANK"  
END-IF
```

```
END-SUBR SP15B
```

```
SUBROUTINE SP15C
```

```
IF P03>=10 AND P03<>99 .AGE OVER 10
```

```

.CHECKS ON P15C

IF P15C=BLANK AND (P15A=3 OR P15B=2)
  MSG "P15C SHOULD NOT BE BLANK IF P15A=3 OR IF P15B=2"
  IMPUTE P15C=9
  MSG "* P15C IMPUTED N/S"
END-IF

IF P15C<>BLANK AND (P15B=1 OR P15A=1 OR P15A=2 OR P15A=5)
  MSG "P15C SHOULD BE BLANK IF P15B=1 OR P15A=1,2 OR 5"
  IMPUTE P15C=BLANK
  MSG "* P15C IMPUTED BLANK"
END-IF

IF P15A<>1 AND P15A<>2 AND P15A<>5 AND P15B<>1

  IF P15C <>VALID AND P15C <>9
    MSG "P15C NOT VALID"

    IF P16=BLANK AND P17=BLANK AND P18=BLANK
      IMPUTE P15C=2
      MSG"SOLVED"
    ELSE
      IMPUTE P15C=1
      MSG"SOLVED"
    END-IF

    IF P15C<>VALID AND P15C<>9
      IMPUTE P15C=9
      MSG"SOLVED BY NS"
    END-IF
  END-IF

  IF P15C=9 AND P15A=3
    IF P16<>BLANK AND P16<>999
      IMPUTE P15C=1
      MSG "N/S RECOVERED"
    END-IF
    IF P16=BLANK
      IMPUTE P15C=2
      MSG "N/S RECOVERED"
    END-IF
  END-IF

  END-IF. P15A=3 OR 4 OR 6 OR 99 AND P15B=2 OR 99
END-IF

IF P03<10 AND P15C<>BLANK
  MSG "P15C SHOULD BE BLANK FOR AGE < 10"
  IMPUTE P15C=BLANK
  MSG "* P15C IMPUTED BLANK"
END-IF

END-SUBR SP15C

SUBROUTINE SP15D

IF P03>=10 AND P03<>99 .AGE OVER 10

.CHECKS ON P15D

IF P15D=BLANK AND (P15A=1 OR P15B=1)
  MSG "P15D SHOULD NOT BE BLANK IF P15A=1 OR IF P15B=1"
  IF P15A=1
    IMPUTE P15D=30
    MSG"* P15D IMPUTED 30 DAYS FOR P15A=1"
  END-IF
  IF P15B=1

```

```

        IMPUTE P15D=14
        MSG "*" P15D IMPUTED 14 FOR P15B=1"
    END-IF
END-IF

IF P15D<>BLANK AND (P15B=2 OR P15A=2 OR P15A=5)
    MSG "P15D SHOULD BE BLANK IF P15B=2 OR P15A=2 OR 5"
    IMPUTE P15D=BLANK
    MSG "*" P15D IMPUTED BLANK"
END-IF

IF P15A=1 OR P15B=1

    IF P15D>30 AND P15D<>99 AND P15D<>BLANK AND P15D<99
        MSG "P15D > 30 DAYS, MADE = 30"
        IMPUTE P15D=30
    END-IF

    IF P15D<>VALID AND P15D<>99
        MSG "P15D NOT VALID"
        IMPUTE P15D=99
        MSG"SOLVED BY NS"
    END-IF

    IF P15D=99 AND P15A=1 and p16=valid
        IMPUTE P15D=30
        MSG "N/S RECOVERED"
    END-IF

    IF P15D=99 AND P15A=4 AND P15B=1
        IMPUTE P15D=14
        MSG "N/S RECOVERED"
    END-IF

    IF P15D=99 AND P15A=6 AND P15B=1
        IMPUTE P15D=14
        MSG "N/S RECOVERED"
    END-IF

END-IF
END-IF

IF P03<10 AND P15D<>BLANK
    MSG "P15D SHOULD BE BLANK FOR AGE < 10"
    IMPUTE P15D=BLANK
    MSG "*" P15D IMPUTED BLANK"
END-IF

END-SUBR SP15D

SUBROUTINE SP16

IF P03>=10 AND P03<>99 .AGE OVER 10

    IF P15A<>5 AND P15C<>2 .IF NO STUDENT OR NOT LOOKING FOR WORK

        .CHECKS ON P16

        IF P16<>VALID AND P16<>999
            MSG "P16 NOT VALID"
            IMPUTE P16=999
            MSG"SOLVED BY NS"
        END-IF

        LET X=0

        DO VARYING IND FROM 1 BY 1
        UNTIL IND>86
            IF P16=P16P03(IND,1) AND P03<P16P03(IND,2)

```



```

        MSG "AGE IS TOO LOW FOR SUCH AN OCCUPATION"
        LET X=X+1
    END-IF
    IF P16=P16P03(IND,1) AND P13A<>P16P03(IND,3) AND P16P03(IND,3)=1
        MSG "SUCH AN OCCUPATION REQUIRES TO READ AND WRITE"
        LET X=X+1
    END-IF
    IF P16=P16P03(IND,1) AND P14B<P16P03(IND,4) AND P14B<=70
        MSG "LEVEL OF EDUCATION NOT MET FOR SUCH AN OCCUPATION"
        LET X=X+1
    END-IF
    IF P16=P16P03(IND,1) AND P18>P16P03(IND,5) AND P18<>9
        MSG "SUCH EMPLOYMENT STATUS NOT CONSISTENT WITH OCCUPATION"
        LET X=X+1
    END-IF
END-DO

IF X>1
    IMPUTE P16=999
    MSG "*" P16 IMPUTED N/S SINCE CONFLICTS WITH MORE THAN 1 DATA"
END-IF

IF P16=222 AND P14B<35
    IMPUTE P16=322
    MSG "*" P16 CHANGED FROM 222 TO 322 IF P14B<35"
END-IF

IF P16=222 AND P14A<>1
    IMPUTE P16=322
    MSG "*" P16 CHANGED FROM 222 TO 322 IF P14A<>1"
END-IF

IF P16=223 AND P14B<35
    IMPUTE P16=322
    MSG "*" P16 CHANGED FROM 223 TO 322 IF P14B<35"
END-IF

IF P16=231 AND P14B<=34 AND P14B>=1
    IMPUTE P16=233
    MSG "*" P16 CHANGED FROM 231 TO 233 IF P14B >=1 AND <=34"
END-IF

IF P16=231 AND P14B<=42 AND P14B>=35
    IMPUTE P16=234
    MSG "*" P16 CHANGED FROM 231 TO 234 IF P14B >=35 AND <=42"
END-IF

IF P16=232 AND (P14B=22 OR P14B=23)
    IMPUTE P16=233
    MSG "*" P16 CHANGED FROM 232 TO 233 IF P14B=22 OR 23"
END-IF

IF P16=243 AND P14B<=64 AND P14B>=24
    IMPUTE P16=414
    MSG "*" P16 CHANGED FROM 243 TO 414 IF P14B >=24 AND <=64"
END-IF

IF P16=312 AND P14B=23
    IMPUTE P16=411
    MSG "*" P16 CHANGED FROM 312 TO 411 IF P14B=23"
END-IF

DO VARYING IND FROM 1 BY 1
UNTIL IND>86
    IF CNCR=0 AND P16=P16P03(IND,1) AND P03<P16P03(IND,2)
        MSG "AGE IS STILL TOO LOW FOR SUCH AN OCCUPATION"
        IMPUTE P16=999
        MSG "*" P16 IMPUTED N/S IN LAST CONCOR"
    END-IF
    IF P16=P16P03(IND,1) AND P13A<>P16P03(IND,3) AND P16P03(IND,3)=1

```

```

        MSG "SUCH AN OCCUPATION STILL REQUIRES TO READ AND WRITE"
        IMPUTE P13A=1
        MSG "*" P13A IMPUTED 1 (CAN R/W)"
    END-IF
    IF P16=P16P03(IND,1) AND P14B<P16P03(IND,4) AND P14B<=70
        MSG "LEVEL OF EDUCATION STILL NOT MET FOR SUCH AN OCCUPATION"
        IMPUTE P14B=99
        MSG "*" P14B IMPUTED N/S"
    END-IF
    IF P16=P16P03(IND,1) AND P18>P16P03(IND,5) AND P18<>9
        MSG "SUCH EMPLOYMENT STATUS STILL NOT CONSISTENT WITH
OCCUPATION"
        IF P16P03(IND,5)=1
            IMPUTE P18=1
            MSG "*" P18 IMPUTED 1 IF OCC CAN ONLY BE EMPLOYEE"
        ELSE
            IMPUTE P18=9
            MSG "*" P18 IMPUTED N/S IF P18 CAN BE OTHER THAN EMPLOYEE
ONLY"
        END-IF
    END-IF
END-DO

ELSE .P15A=5 OR P15C=2
    IF P16<>BLANK
        IMPUTE P16=BLANK
        MSG "*" P16 IMPUTED BLANK IF P15A=5 OR P15C=2"
    END-IF
END-IF

END-IF

IF P03<10 AND P16<>BLANK
    MSG "P16 SHOULD BE BLANK FOR AGE < 10"
    IMPUTE P16=BLANK
    MSG "*" P16 IMPUTED BLANK  "
END-IF

END-SUBR SP16

SUBROUTINE SP17

IF P03>=10 AND P03<>99 .AGE OVER 10

    IF P15A<>5 AND P15C<>2 .IF NO STUDENT OR NOT LOOKING FOR WORK

        .CHECKS ON P17

        IF P17<>VALID AND P17<>999
            MSG "P17 NOT VALID"
            IMPUTE P17=999
            MSG"SOLVED BY NS"
        END-IF

    ELSE .P15A=5 OR P15C=2
        IF P17<>BLANK
            IMPUTE P17=BLANK
            MSG "*" P17 IMPUTED BLANK IF P15A=5 OR P15C=2"
        END-IF
    END-IF
END-IF

IF P03<10 AND P17<>BLANK
    MSG "P17 SHOULD BE BLANK FOR AGE < 10"
    IMPUTE P17=BLANK
    MSG "*" P17 IMPUTED BLANK  "

```

END-IF

END-SUBR SP17

SUBROUTINE SP18

IF P03>=10 AND P03<>99 .AGE OVER 10

IF P15A<>5 AND P15C<>2 .IF NO STUDENT OR NOT LOOKING FOR WORK

.CHECKS ON P18

IF P18<>VALID AND P18<>9

MSG "P18 NOT VALID"

IMPUTE P18=9

MSG "SOLVED BY NS"

END-IF

DO VARYING IND FROM 1 BY 1

UNTIL IND>86

IF P16=P16P03(IND,1) AND P18>P16P03(IND,5) AND P18<>9

MSG "SUCH EMPLOYMENT STATUS NOT CONSISTENT WITH OCCUPATION"

END-IF

END-DO

ELSE .P15A=5 OR P15C=2

IF P18<>BLANK

IMPUTE P18=BLANK

MSG "* P18 IMPUTED BLANK IF P15A=5 OR P15C=2"

END-IF

END-IF

END-IF .AGE<10

IF P03<10 AND P18<>BLANK

MSG "P18 SHOULD BE BLANK FOR AGE < 10"

IMPUTE P18=BLANK

MSG "* P18 IMPUTED BLANK "

END-IF

END-SUBR SP18

segment

SUBROUTINE SP19AB

.CHECKS ON P19A

IF P19A<>VALID AND P19A<>99

MSG "P19A NOT VALID"

IF P19C=VALID AND P19E=VALID AND P19G=VALID

LET X=P19C+P19E+P19G

IF X>=0 AND X<=15

IMPUTE P19A=X

MSG "SOLVED"

END-IF

END-IF

IF P19A<>VALID AND P19A<>99

IMPUTE P19A=99

MSG "SOLVED BY NS"

END-IF

END-IF

IF P19A=99

```

      MSG "P19A SHOULD NOT BE UNSTATED"
END-IF

      IF P19C=VALID AND P19E=VALID AND P19G=VALID AND P19A=99
        LET X=P19C+P19E+P19G
        IF X>=0 AND X<=15
          IMPUTE P19A=X
          MSG"N/S RECOVERED"
        END-IF
      END-IF

IF P19B<>VALID AND P19B<>99
  MSG "P19B NOT VALID"

  IF P19D=VALID AND P19F=VALID AND P19H=VALID
    LET X=P19D+P19F+P19H
    IF X>=0 AND X<=15
      IMPUTE P19B=X
      MSG"SOLVED"
    END-IF
  END-IF

  IF P19B <>VALID AND P19B<> 99
    IMPUTE P19B=99
    MSG"SOLVED BY NS"
  END-IF
END-IF

IF P19B=99
  MSG "P19B SHOULD NOT BE UNSTATED"
END-IF

      IF P19D=VALID AND P19F=VALID AND P19H=VALID AND P19B=99
        LET X=P19D+P19F+P19H
        IMPUTE P19B=X
        MSG"N/S RECOVERED"
      END-IF

.CHECKS ON P19A AND P19B

IF P19A=VALID AND P19B=VALID
  LET X=P19A+P19B

  IF (P04=12 OR P04=13) AND P02=2 AND X=0
    MSG "MOTHER HAS NOT DECLARED HER CHILDREN"
    IMPUTE P04=16
    MSG "* P04 IMPUTED 16"
  END-IF
END-IF

END-SUBR SP19AB

SUBROUTINE SP19CD

.CHECKS ON P19C

IF P19C<>VALID AND P19C<>99
  MSG "P19C NOT VALID"

  IF P19A=VALID AND P19E=VALID AND P19G=VALID
    LET X=P19A - P19E - P19G
    IF X>=0 AND X<=9
      IMPUTE P19C=X
      MSG"SOLVED"
    ELSE
      IMPUTE P19C=99
      MSG "SOLVED BY NS"
    END-IF
  END-IF
END-IF

```

```

        IF P19C<>VALID AND P19C <>99
            IMPUTE P19C=99
            MSG"SOLVED BY NS"
        END-IF
    END-IF

    IF P19C=99
        MSG "P19C SHOULD NOT BE UNSTATED"
    END-IF

    IF P19A=VALID AND P19E=VALID AND P19G=VALID AND P19C=99
        LET X=P19A - P19E - P19G
        IF X>=0 AND X<=9
            IMPUTE P19C=X
            MSG"N/S RECOVERED"
        END-IF
    END-IF

.CHECKS ON P19D

    IF P19D<>VALID AND P19D<>99
        MSG "P19D NOT VALID"

        IF P19B=VALID AND P19F=VALID AND P19H=VALID
            LET X=P19B - P19F - P19H
            IF X>=0 AND X<=9
                IMPUTE P19D=X
                MSG"SOLVED"
            ELSE
                IMPUTE P19D=99
                MSG "SOLVED BY N/S"
            END-IF
        END-IF

        IF P19D<>VALID AND P19D<>99
            IMPUTE P19D=99
            MSG"SOLVED BY NS"
        END-IF
    END-IF

    IF P19D=99
        MSG "P19D SHOULD NOT BE UNSTATED"
    END-IF

    IF P19B=VALID AND P19F=VALID AND P19H=VALID AND P19D=99
        LET X=P19B - P19F - P19H
        IF X>=0 AND X<=9
            IMPUTE P19D=X
            MSG"N/S RECOVERED"
        END-IF
    END-IF

.CHECKS ON P19C AND P19D

    IF P19C=VALID AND P19D=VALID
        LET X=P19C+P19D

        IF P04=7 AND P02=2 AND X=0
            MSG "MOTHER OF HHH HAS NOT DECLARED HER SON/DAUGHTER LIVING IN
HH"
            IMPUTE P04=16
            MSG "* P04 IMPUTED 16"
        END-IF
    END-IF

END-SUBR SP19CD

```

SUBROUTINE SP19EF

.CHECKS ON P19E

IF P19E<>VALID AND P19E<>99
MSG "P19E NOT VALID"

IF P19A=VALID AND P19C=VALID AND P19G=VALID
LET X=P19A - P19C - P19G
IF X>=0 AND X<=9
IMPUTE P19E=X
MSG "SOLVED"
END-IF
END-IF

IF P19E<>VALID AND P19E<>99
IMPUTE P19E=99
MSG "SOLVED BY NS"
END-IF
END-IF

IF P19E=99
MSG "P19E SHOULD NOT BE UNSTATED"
END-IF

IF P19A=VALID AND P19C=VALID AND P19G=VALID AND P19E=99
LET X=P19A - P19C - P19G
IF X>=0 AND X<=9
IMPUTE P19E=X
MSG "N/S RECOVERED"
END-IF
END-IF

.CHECKS ON P19F

IF P19F<>VALID AND P19F<>99
MSG "P19F NOT VALID"

IF P19B=VALID AND P19D=VALID AND P19H=VALID
LET X=P19B - P19D - P19H
IF X>=0 AND X<=9
IMPUTE P19F=X
MSG "SOLVED"
END-IF
END-IF

IF P19F<>VALID AND P19F <>99
IMPUTE P19F=99
MSG "SOLVED BY NS"
END-IF
END-IF

IF P19F=99
MSG "P19F SHOULD NOT BE UNSTATED"
END-IF

IF P19B=VALID AND P19D=VALID AND P19H=VALID AND P19F=99
LET X=P19B - P19D - P19H
IF X>=0 AND X<=9
IMPUTE P19F=X
MSG "N/S RECOVERED"
END-IF
END-IF

END-SUBR SP19EF

SUBROUTINE SP19GH

.CHECKS ON P19G

```
IF P19G<>VALID AND P19G<>99
  MSG "P19G NOT VALID"
```

```
  IF P19A=VALID AND P19C=VALID AND P19E=VALID
    LET X = P19A - P19C - P19E
    IF X>=0 AND X<=9
      IMPUTE P19G=X
      MSG"SOLVED"
    ELSE
      IMPUTE P19G=99
      MSG "SOLVED BY NS"
    END-IF
  END-IF
```

```
  IF P19G<>VALID AND P19G <>99
    IMPUTE P19G=99
    MSG"SOLVED BY NS"
  END-IF
END-IF
```

```
IF P19G=99
  MSG "P19G SHOULD NOT BE UNSTATED"
END-IF
```

```
  IF P19A=VALID AND P19C=VALID AND P19E=VALID AND P19G=99
    LET X = P19A - P19C - P19E
    IF X>=0 AND X<=9
      IMPUTE P19G=X
      MSG"N/S RECOVERED"
    END-IF
  END-IF
```

.CHECKS ON P19H

```
IF P19H<>VALID AND P19H<>99
  MSG "P19H NOT VALID"
```

```
  IF P19B=VALID AND P19D=VALID AND P19F=VALID
    LET X= P19B - P19D - P19F
    IF X>=0 AND X<=9
      IMPUTE P19H=X
      MSG"SOLVED"
    ELSE
      IMPUTE P19H=99
      MSG "SOLVED BY NS"
    END-IF
  END-IF
```

```
  IF P19H<>VALID AND P19H <>99
    IMPUTE P19H=99
    MSG"SOLVED BY NS"
  END-IF
END-IF
```

```
IF P19H=99
  MSG "P19H SHOULD NOT BE UNSTATED"
END-IF
```

```
  IF P19B=VALID AND P19D=VALID AND P19F=VALID AND P19H=99
    LET X= P19B - P19D - P19F
    IF X>=0 AND X<=9
      IMPUTE P19H=X
      MSG"N/S RECOVERED"
    END-IF
  END-IF
```

END-SUBR SP19GH

SUBROUTINE SP19TOT

.CHECKS ON P19 TOTAL

```
IF P19C=VALID AND P19E=VALID AND P19G=VALID
  LET CHILDREN=P19C+P19E+P19G
  IF CHILDREN<>P19A
    MSG "TOTAL NUMBER OF BOYS DOES NOT MATCH"
    .   if children>=0 and children<=15
    .     IMPUTE P19A=CHILDREN
    .   else
    .     impute p19a=99
    .   end-if
    MSG"* P19A IMPUTED TOTAL OF MALE CHILDREN"
  END-IF
```

END-IF

```
IF P19D=VALID AND P19F=VALID AND P19H=VALID
  LET CHILDREN=P19D+P19F+P19H
  IF CHILDREN<>P19B
    MSG "TOTAL NUMBER OF GIRLS DOES NOT MATCH"
    .   if children >=0 and children <=15
    .     IMPUTE P19B=CHILDREN
    .   else
    .     impute p19b=99
    .   end-if
    MSG "*P19B IMPUTED TOTAL FEMALE CHILDREN"
  END-IF
```

END-IF

```
IF P19A=VALID AND P19B=VALID
  LET CHILDREN=P19A+P19B
  IF CHILDREN>20
    MSG "AGAIN TOO MANY CHILDREN >20"
    IMPUTE P19A=99
    IMPUTE P19B=99
    IMPUTE P19C=99
    IMPUTE P19D=99
    IMPUTE P19E=99
    IMPUTE P19F=99
    IMPUTE P19G=99
    IMPUTE P19H=99
    MSG "*" P19 A TO H IMPUTED N/S"
  END-IF
```

DO VARYING IND FROM 1 BY 1

UNTIL IND>21

```
IF CNCR=0 AND CHILDREN=P19ABP03(IND,1) AND P03<P19ABP03(IND,2)
  MSG "AGAIN TOO MANY CHILDREN FOR MOTHER OF THAT AGE IN 2ND
```

CONCOR"

```
    IMPUTE P19A=99
    IMPUTE P19B=99
    IMPUTE P19C=99
    IMPUTE P19D=99
    IMPUTE P19E=99
    IMPUTE P19F=99
    IMPUTE P19G=99
    IMPUTE P19H=99
    MSG "*" P19 A TO H IMPUTED N/S"
```

END-IF

END-DO

END-IF

END-SUBR SP19TOT

SUBROUTINE SP20AB

.CHECKS ON P20A

IF P20A<>VALID AND P20A<>9
MSG "P20A NOT VALID"

IF P19A=VALID AND P19A=0
IMPUTE P20A=0
MSG"SOLVED"
END-IF

IF P20E=VALID
IMPUTE P20A=P20E
MSG"SOLVED"
END-IF

IF P20A<>VALID AND P20A<>9
IMPUTE P20A=9
MSG"SOLVED BY NS"
END-IF
END-IF

IF P20A=9
MSG "P20A SHOULD NOT BE UNSTATED"
IF P20E=VALID
IMPUTE P20A=P20E
MSG "*" IMPUTE P20A = P20E"
END-IF
END-IF

.CHECKS ON P20B

IF P20B<>VALID AND P20B<>9
MSG "P20B NOT VALID"

IF P19B=VALID AND P19B=0
IMPUTE P20B=0
MSG"SOLVED"
END-IF

IF P20F=VALID
IMPUTE P20B=P20F
MSG"SOLVED"
END-IF

IF P20B<>VALID AND P20B<>9
IMPUTE P20B=9
MSG"SOLVED BY NS"
END-IF
END-IF

IF P20B=9
MSG "P20B SHOULD NOT BE UNSTATED"
IF P20F=VALID
IMPUTE P20B=P20F
MSG "*" IMPUTE P20B = P20F"
END-IF

END-IF

END-SUBR SP20AB

SUBROUTINE SP20EF

.CHECKS ON P20E

```

IF P20E<>VALID AND P20E<>9
  MSG "P20E NOT VALID"

  IF P19C=VALID AND P19E= VALID AND P19C=0 AND P19E=0
    IMPUTE P20E=0
    MSG"SOLVED"
  END-IF

  IF P20E<>VALID AND P20E <>9
    IMPUTE P20E=9
    MSG"SOLVED BY NS"
  END-IF
END-IF

IF P20E=9
  MSG "P20E SHOULD NOT BE UNSTATED"
  IF P20A=VALID
    IMPUTE P20E=P20A
    MSG "* IMPUTE P20E = P20A"
  END-IF
END-IF

IF P20E=VALID AND P20A=VALID AND P20E>P20A
  MSG "NUMBER SURVIVING MALES<1 YEAR HIGHER THAN NUMBER BORN LAST YEAR"
  IMPUTE P20A=P20E
  MSG "* P20A IMPUTED = P20E"
END-IF

IF P19C=VALID AND P19E=VALID AND P20E=VALID
  LET X=P19C+P19E
  IF P20E>X
    MSG"NUMBER SURVIVING MALES BORN LAST YEAR > TOTAL MALES
SURVIVING"
    LET CHILDREN=0
    COUNT CHILDREN FOR P03=0 AND P02=1
    IF CHILDREN <>0
      IMPUTE P19C=P20E
      MSG "* P19C IMPUTED = P20E SINCE BOY < 1YEAR FOUND IN HH"
    ELSE
      IMPUTE P19E=P20E
      MSG "* P19E IMPUTED = P20E SINCE NO BOY < 1YEAR IN HH"
    END-IF
  END-IF
END-IF

IF P20A=VALID AND P20E=VALID AND P19G=VALID
  LET X=P20A - P20E
  IF P19G< X AND X>=0 AND X<=2
    MSG"NUMBER DECEASED MALES BORN LAST YEAR LARGER THAN TOTAL
DECEASED"
    IMPUTE P19G=X
    MSG "* P19G IMPUTED = P20A-P20E"
  END-IF
END-IF

.CHECKS ON P20F

IF P20F<>VALID AND P20F<>9
  MSG "P20F NOT VALID"

  IF P19D=VALID AND P19F=VALID AND P19D=0 AND P19F=0
    IMPUTE P20F=0
    MSG"SOLVED"
  END-IF

  IF P20F<>VALID AND P20F<>9
    IMPUTE P20F=9
    MSG"SOLVED BY NS"
  END-IF

```

```

END-IF

IF P20F=9
  MSG "P20F SHOULD NOT BE UNSTATED"
  IF P20B=VALID
    IMPUTE P20F=P20B
    MSG "* IMPUTE P20F = P20B"
  END-IF
END-IF

IF P20F=VALID AND P20B=VALID AND P20F>P20B
  MSG "NUMBER SURVIVING FEMALES<1 YEAR HIGHER THAN NUMBER BORN LAST
YEAR"
  IMPUTE P20B=P20F
  MSG "* P20B IMPUTED = P20F"
END-IF

IF P19D=VALID AND P19F=VALID AND P20F=VALID
  LET X=P19D+P19F
  IF P20F>X
    MSG"NUMBER SURVIVING FEMALES BORN LAST YEAR>TOTAL FEMALES
SURVIVING"
    LET CHILDREN=0
    COUNT CHILDREN FOR P03=0 AND P02=2
    IF CHILDREN <>0
      IMPUTE P19D=P20F
      MSG "* P19D IMPUTED = P20F SINCE GIRL < 1YEAR FOUND IN HH"
    ELSE
      IMPUTE P19F=P20F
      MSG "* P19F IMPUTED = P20F SINCE NO GIRL < 1YEAR IN HH"
    END-IF
  END-IF
END-IF

IF P20B=VALID AND P20F=VALID AND P19H=VALID
  LET X=P20B - P20F
  IF P19H< X AND X>=0 AND X<=2
    MSG"NUMBER DECEASED FEMALES BORN LAST YEAR LARGER THAN TOTAL
DECEASED"
    IMPUTE P19H=X
    MSG "* P19H IMPUTED = P20B - P20F"
  END-IF
END-IF

IF P03>58 AND P20A<>0 AND P20A<>99
  MSG "P20A-WOMAN TOO OLD TO HAVE HAD BOYS DURING LAST YEAR"
  IMPUTE P20A=0
  MSG "*P20A IMPUTED ZERO"
END-IF

IF P03>58 AND P20B<>0 AND P20B<>99
  MSG "P20B-WOMAN TOO OLD TO HAVE HAD GIRLS DURING LAST YEAR"
  IMPUTE P20B=0
  MSG "*P20B IMPUTED ZERO"
END-IF

IF P03>58 AND P20E<>0 AND P20E<>99
  MSG "P20E-WOMAN TOO OLD TO HAVE HAD BOYS DURING LAST YEAR"
  IMPUTE P20E=0
  MSG "*P20E IMPUTED ZERO"
END-IF

IF P03>58 AND P20F<>0 AND P20F<>99
  MSG "P20F-WOMAN TOO OLD TO HAVE HAD CHILDREN DURING LAST YEAR"
  IMPUTE P20F=0
  MSG "*P20F IMPUTED ZERO"
END-IF

```

END-SUBR SP20EF

SUBROUTINE SP21AB

.CHECKS ON P21A

IF P21A <> VALID AND P21A<>9
MSG " P21A NOT VALID"

IF P04=4 AND P04(1)=1 AND P02(1)=1
IMPUTE P21A=1
MSG "SOLVED"
END-IF

IF P04=1
DO VARYING IND FROM 1 BY 1
UNTIL IND>TYPE-COUNT(POP)
IF P04(IND)=07 AND P02(IND)=1
IMPUTE P21A=1
MSG "SOLVED"
END-IF
END-DO
END-IF

IF P21A<>VALID AND P21A<>9
IMPUTE P21A=9
MSG "SOLVED BY NS"
END-IF
END-IF

IF P04=7 AND P02=1 AND P04(1)=1 AND P21A(1)<>1
MSG "FATHER OF HHH HAS BEEN FOUND AND NOT BEEN REPORTED ALIVE IN HHH
DATA"

IF P21A(1)=9
IMPUTE P21A(1)=1
MSG "*" P21A OF HHH IMPUTED 1"
END-IF
IF P21A(1)=2
IMPUTE P04=16
MSG "*" P04 MADE 16 SINCE UNLIKELY TO BE REAL FATHER OF HHH"
END-IF
END-IF

IF P04=4 AND P04(1)=1 AND P02(1)=1 AND P21A<>1
MSG "SON/DAUGHTER OF MALE HHH HAS NOT REPORTED HIS/HER FATHER ALIVE"
IF P21A=9
IMPUTE P21A=1
MSG "*" P21A IMPUTED 1"
END-IF
IF P21A=2
IMPUTE P04=16
MSG "*" P04 IMPUTED 16 SINCE UNLIKELY TO BE REAL CHILD"
END-IF
END-IF

.CHECKS ON P21B

IF P21B <> VALID AND P21B<>9
MSG " P21B NOT VALID"

IF P04=4 AND P04(1)=1 AND P02(1)=2
IMPUTE P21B=1
MSG "SOLVED"
END-IF

IF P04=1
DO VARYING IND FROM 1 BY 1
UNTIL IND>TYPE-COUNT(POP)

```

        IF P04(IND)=07 AND P02(IND)=2
            IMPUTE P21B=1
            MSG "SOLVED"
        END-IF
    END-DO
END-IF

IF P21B<>VALID AND P21B<>9
    IMPUTE P21B=9
    MSG "SOLVED BY NS"
END-IF
END-IF

IF P04=7 AND P02=2 AND P04(1)=1 AND P21B(1)<>1
    MSG "MOTHER OF HHH HAS BEEN FOUND AND NOT BEEN REPORTED ALIVE IN HHH
DATA"
    IF P21B(1)=9
        IMPUTE P21B(1)=1
        MSG "*" P21B OF HHH IMPUTED 1"
    END-IF
    IF P21B(1)=2
        IMPUTE P04=16
        MSG "*" P04 MADE 16 SINCE UNLIKELY TO BE REAL MOTHER OF HHH"
    END-IF

END-IF

IF P04=4 AND P04(1)=1 AND P02(1)=2 AND P21B<>1
    MSG "SON/DAUGHTER OF FEMALE HHH HAS NOT REPORTED HIS/HER MOTHER ALIVE"
    IF P21B=9
        IMPUTE P21B=1
        MSG "*" P21B IMPUTED 1"
    END-IF
    IF P21B=2
        IMPUTE P04=16
        MSG "*" P04 IMPUTED 16 SINCE UNLIKELY TO BE REAL CHILD"
    END-IF
END-IF

END-SUBR SP21AB

SUBROUTINE MAKEBLK

.MAKING N/A FIELDS BLANK

    IF P19A<>BLANK
        IMPUTE P19A=BLANK
        MSG "P19A IMPUTED BLANK"
    END-IF
    IF P19B<>BLANK
        IMPUTE P19B=BLANK
        MSG "P19B IMPUTED BLANK"
    END-IF
    IF P19C<>BLANK
        IMPUTE P19C=BLANK
        MSG "P19C IMPUTED BLANK"
    END-IF
    IF P19D<>BLANK
        IMPUTE P19D=BLANK
        MSG "P19D IMPUTED BLANK"
    END-IF
    IF P19E<>BLANK
        IMPUTE P19E=BLANK
        MSG "P19E IMPUTED BLANK"
    END-IF
    IF P19F<>BLANK
        IMPUTE P19F=BLANK

```

```

        MSG "P19F IMPUTED BLANK"
    END-IF
    IF P19G<>BLANK
        IMPUTE P19G=BLANK
        MSG "P19G IMPUTED BLANK"
    END-IF
    IF P19H<>BLANK
        IMPUTE P19H=BLANK
        MSG "P19H IMPUTED BLANK"
    END-IF
    IF P20A<>BLANK
        IMPUTE P20A=BLANK
        MSG "P20A IMPUTED BLANK"
    END-IF
    IF P20B<>BLANK
        IMPUTE P20B=BLANK
        MSG "P20B IMPUTED BLANK"
    END-IF
    IF P20E<>BLANK
        IMPUTE P20E=BLANK
        MSG "P20E IMPUTED BLANK"
    END-IF
    IF P20F<>BLANK
        IMPUTE P20F=BLANK
        MSG "P20F IMPUTED BLANK"
    END-IF

END-SUBR MAKEBLK

SUBROUTINE FINDHHH
IF GRP=1 AND P00=1 AND (P04<>1)
    LET PH=0
    FIND PH FOR P04=1
    IF PH>1
        LET PX=1
        IMPUTE P04(1)=99
        CALL MOVEHHH
        IMPUTE P00(1)=1
        IMPUTE P00(PH)=PH
        MSG "*" HHH CODED P04=1 MOVED TO FIRST RECORD"
    END-IF
END-IF
IF GRP=1 AND P00=1 AND (P04<>1 AND P04<>2)
    LET PH=0
    FIND PH FOR P04=2
    IF PH>1
        LET PX=1
        CALL MOVEHHH
        IMPUTE P00(1)=1
        IMPUTE P00(PH)=PH
        MSG "*" HHH CODED P04=2 MOVED TO FIRST RECORD"
    END-IF
END-IF

IF GRP=1 AND P00=1 AND (P04<>1 AND P04<>2) AND TYPE-COUNT(POP)=1
    IMPUTE P04(1)=1
    MSG"* P04 OF ONE PERSON HH IMPUTED 1"
END-IF

IF GRP=1 AND P00=1 AND (P04<>1 AND P04<>2)
    LET AGEHHH=0
    LET PH=0
    DO VARYING IND FROM 2 BY 1
    UNTIL IND>TYPE-COUNT(POP)
        IF P03(IND)>AGEHHH AND P03(IND)<>99
            LET PH=IND
            LET AGEHHH=P03(IND)
        END-IF
    END-DO

```

```

IF PH>1
  LET PX=1
  IMPUTE P04(PH)=2
  CALL MOVEHHH
  IMPUTE P00(1)=1
  IMPUTE P00(PH)=PH
  IMPUTE P04(1)=2
  MSG "*" ELDEST PERSON OF HH MADE TEMPORARY HHH"
ELSE
  IMPUTE P04(1)=2
  MSG"* IMPOSSIBLE FIND ELDEST, FIRST MADE HHH (02)"
END-IF
END-IF

END-SUBR FINDHHH

```

```

SUBROUTINE MOVEHHH
$DATA 01 POPREC-HOLD PIC X(83).
$EXEC MOVE REC-TYPE-3 (B-PH) TO POPREC-HOLD.
$EXEC MOVE REC-TYPE-3 (B-PX) TO REC-TYPE-3 (B-PH).
$EXEC MOVE POPREC-HOLD TO REC-TYPE-3 (B-PX).
END-SUBR MOVEHHH

```

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.AT-END-QUEST
. OUTPUT QUEST

```