```
25   RDBUFF    MACRO    &INDEV,&BUFADR,&RECLTH,&EOR
27   &EORCT    SET      %NITEMS(&EOR)
30             CLEAR    X                  CLEAR LOOP COUNTER
35             CLEAR    A
45             +LDT     #4096              SET MAX LENGTH = 4096
50   $LOOP     TD       =X'&INDEV'         TEST INPUT DEVICE
55             JEQ      $LOOP              LOOP UNTIL READY
60             RD       =X'&INDEV'         READ CHARACTER INTO REG A
63   &CTR      SET      1
64             WHILE    (&CTR LE &EORCT)
65             COMP     =X'0000&EOR[&CTR]'
70             JEQ      $EXIT
71   &CTR      SET      &CTR+1
73             ENDW
75             STCH     &BUFADR,X          STORE CHARACTER IN BUFFER
80             TIXR     T                  LOOP UNLESS MAXIMUM LENGTH
85             JLT      $LOOP                HAS BEEN REACHED
90   $EXIT     STX      &RECLTH            SAVE RECORD LENGTH
100            MEND
```

(a)

```
               RDBUFF   F2,BUFFER,LENGTH,(00,03,04)
```

```
30             CLEAR    X                  CLEAR LOOP COUNTER
35             CLEAR    A
45             +LDT     #4096              SET MAX LENGTH = 4096
50   $AALOOP   TD       =X'F2'             TEST INPUT DEVICE
55             JEQ      $AALOOP            LOOP UNTIL READY
60             RD       =X'F2'             READ CHARACTER INTO REG A
65             COMP     =X'000000'
70             JEQ      $AAEXIT
65             COMP     =X'000003'
70             JEQ      $AAEXIT
65             COMP     =X'000004'
70             JEQ      $AAEXIT
75             STCH     BUFFER,X           STORE CHARACTER IN BUFFER
80             TIXR     T                  LOOP UNLESS MAXIMUM LENGTH
85             JLT      $AALOOP              HAS BEEN REACHED
90   $AAEXIT   STX      LENGTH             SAVE RECORD LENGTH
```

(b)

Figure 4.9 Use of macro-time looping statements.