EXAMPLE 7.5 PicBasic Pro Program for Security System Example

```
' security.bas

' PicBasic Pro program to perform the control functions of the security
'  system presented in Section 6.6

' Define variables for I/O port pins
door_or_window       Var        PORTB.0    ' signal A
motion               Var        PORTB.1    ' signal B
c                    Var        PORTB.2    ' signal C
d                    Var        PORTB.3    ' signal D
alarm                Var        PORTA.0    ' signal Y

' Define constants for use in IF comparisons
OPEN           Con     1      ' to indicate that a door OR window is open
DETECTED       Con     1      ' to indicate that motion is detected

' Make sure the alarm is off to begin with
Low alarm

' Main polling loop
always:
       If ((c == 0) And (d == 1)) Then     ' operating state 1 (occupants
                                           '  sleeping)
               If (door_or_window == OPEN) Then
                       High alarm
               Else
                       Low alarm
               Endif
       Else
       If ((c == 1) And (d == 0)) Then     ' operating state 2 (occupants away)
               If((door_or_window == OPEN) Or (motion == DETECTED)) Then
                       High alarm
               Else
                       Low alarm
               Endif
       Else                                    ' operating state 3 or NA (alarm
                                               '  disabled)
                       Low alarm
       Endif
    Endif

Goto always                                        ' continue to poll the inputs

End
```