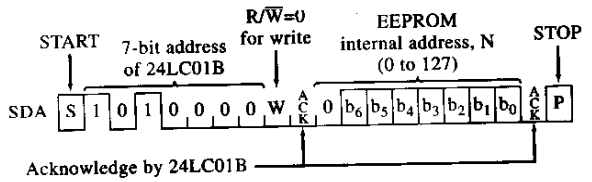
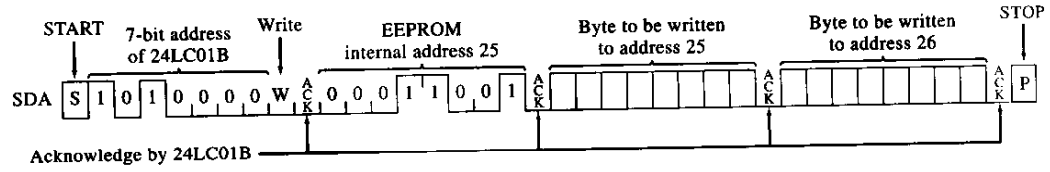
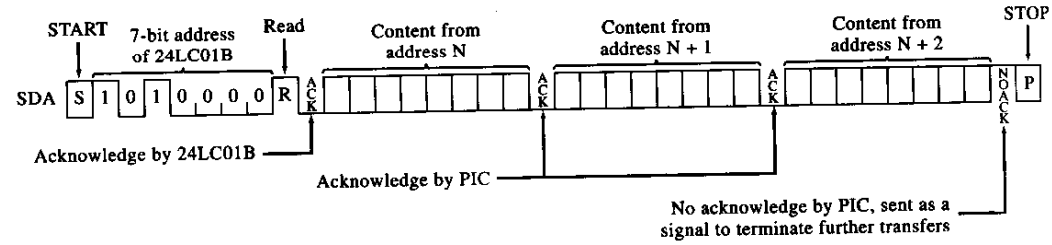


(a) Set internal address



(b) Write to addresses 25 and 26



(c) Read from three consecutive addresses (with first address previously set)

Figure 9-16 24LC01B EEPROM message strings.

if that address byte is followed by three data bytes and the STOP condition, then the first of the three data bytes will be written into address B'00010110', the second into B'00010111', and the third into B'00010000' (and *not* into B'00011000', as intended).

Reading any number of bytes of data from selected EEPROM addresses requires that a starting address first be sent to the EEPROM with the write message string of Figure 9-16a. This string is followed by the message string of Figure 9-16c, consisting of the START condition, a read command, and then a read of data from consecutive addresses sent back by the EEPROM. The PIC signals the EEPROM to send no further bytes by not pulling the SDA line low during the last acknowledge bit time. The sending of the STOP condition by the PIC completes the message string.

PROBLEMS

9-1 STOP condition
9-5b, the PIC signals th
line low in acknowledg
the SDA and SCL lines
(a) Draw the signals o
the STOP conditio
(b) Now redraw these
SDA low after the
in transmitting one

9-2 I²C bus timing c
described at the beginn
(a) Create a chart like
kbit/s transfers.
(b) Some of the "cycles
fers. For example,
of Figure 9-7, crea
COUNT variable w
been decremented

```
goto
```

will branch back to

9-3 Direct addressing
and clearing bits of the
less instructions to exec
assuming that the indir
beginning of the execu

Another reason to
discussion of Section 4
of P4.ASM (Figure 5-7
use direct addressing t

9-4 DAC output Write
to make the OUT1 ana

9-5 I2Cin2 subroutin
(a) Using the **I2Cin** s
data into **DATAIN**
(b) Assuming the LM
power-on default s
ature into **DATAI**