

Solutions to Lab 3

One possible solution is shown below.

```
/*
  APSC 380 Lab 3 - Display student number in binary on LEDs.
  Ed Casas, November 1 1997
*/

#include <8051.h>

char digit [10] = { 0xf, 1, 2, 3, 4, 5, 6, 7, 8, 0xf } ;

main ()
{
  int i ;

  /* initialize index */
  i = 0 ;

  /* show digits */

  while ( i < 10 ) {

    /* display digit */
    P1 = digit [ i ] * 16 ;

    /* wait for button to be pressed */
    while ( ( P3 & 0x20 ) != 0x20 ) ;

    /* wait for button up */
    while ( ( P3 & 0x20 ) == 0x20 ) ;

    /* increment index to select next digit */
    i = i + 1 ;

  }

  /* wait forever */
  while ( 1 ) {
  }
}
```