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//Project- Burglar Alarm
//2851,2852,2853,2854,2855

#include <reg51.h>
#define lcd P3
sbit PIR=P1^0;
sbit rs=P2^0;
sbit rw=P2^1;
sbit en=P2^2;
sbit buzzer=P2^3;

void lcd_init();
void cmd(unsigned char);
void dat(unsigned char);
void delay();
void lcd_string(char *s);

void main()
{
        long int i;
        lcd_init();
        lcd_string("ALARM DETECTOR");
        while(1)
        {
                if(PIR==1)                              //when person detected
                {
                        cmd(0xC0);                      //position cursor to 2nd line of LCD
                        buzzer=1;                       //buzzer ON
                        lcd_string("DETECTED");         //print on LCD screen
                        delay();                        //generating delay
                }
                else                                    //when person not detected
                {
                        cmd(0xC0);                      //position cursor to 2nd line of LCD
                        buzzer=0;                       //buzzer OFF
                        lcd_string("        ");         //print on LCD screen
                }
        }
}
void lcd_init()
{
        cmd(0x38);                                      //2 lines, 5x7 matrix
        cmd(0x0E);                                      //display on, cursor on
        cmd(0x06);                                      //increment cursor
        cmd(0x01);                                      //clear screen
        cmd(0x80);                                      //setting cursor at line1
}

void cmd(unsigned char a)
{
        lcd=a;
        rs=0;                                           //Register_select high
```

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        rw=0;                                   //Read/write pin low
        en=1;                                   //EN pin low
        delay();                                //generating delay
        en=0;                                   //EN pin low
}
void dat(unsigned char b)
{
        lcd=b;
        rs=1;                                   //Register_select high
        rw=0;                                   //Read/write pin low
        en=1;                                   //EN pin low
        delay();                                //generating delay
        en=0;                                   //EN pin low
}
void lcd_string(char *s)
{
        while(*s)
        {
        dat(*s++);                              //printing string passes as argument
        }
}
void delay()
{
        unsigned int i;
        for(i=0;i<20000;i++);                   //generating delay
}
```