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#include <p18f4520.h>

void lcdcmd(int cmd);
void lcddata(unsigned char value);
void msdelay(int time);

#define ldata PORTD      // Data pins connected to PORTD
#define rs PORTEbits.RE0 // RS connected to RE0
#define rw PORTEbits.RE1 // RW connected to RE1
#define en PORTEbits.RE2 // EN connected to RE2

void main()
{
    ADCON1=0x0F;    //All ports used as Digital I/O
    TRISD = 0x00;    // Set PORTD as output
    TRISE = 0x00;    // Set PORTE as output
    msdelay(100);

    lcdcmd(0x38);    // 16x2 LCD, 8-bit, 2 line, 5x7 dots
    msdelay(50);
    lcdcmd(0x0E);    // Display on, Cursor on
    msdelay(15);
    lcdcmd(0x01);    // Clear Display
    msdelay(15);
    lcdcmd(0x06);    // Entry mode set, Increment and shift right
    msdelay(15);
    lcdcmd(0x80);    // Move cursor to first row, first position

    // Display "SPPU" on first row
    lcddata('S');
    msdelay(50);

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    lcddata('P');
    msdelay(50);
    lcddata('P');
    msdelay(50);
    lcddata('U');
    msdelay(50);

    // Move cursor to second row and display "SITS"
    lcdcmd(0xC0);    // Move cursor to second row, first position
    msdelay(15);
    lcddata('S');
    msdelay(50);
    lcddata('I');
    msdelay(50);
    lcddata('T');
    msdelay(50);
    lcddata('S');
    msdelay(50);
}

// Command function to send instructions to LCD
void lcdcmd(int cmd)
{
    ldata = cmd;    // Send command to PORTD
    rs = 0;        // Select command register
    rw = 0;        // Write operation
    en = 1;        // Generate a high-to-low pulse
    msdelay(10);
    en = 0;
}

```

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// Data function to send data to LCD
void lcddata(unsigned char value)
{
    ldata = value;    // Send data to PORTD
    rs = 1;           // Select data register
    rw = 0;           // Write operation
    en = 1;           // Generate a high-to-low pulse
    msdelay(10);
    en = 0;
}

// Delay function (approximate timing based on oscillator frequency)
void msdelay(int time)
{
    int i, j;
    for (i = 0; i < time; i++)
        for (j = 0; j < 135; j++);
}

```