#include <P18f4550.h>

#define lrbit PORTAbits.RA2 // Input switch 1

#define rlbit PORTAbits.RA3 // Input switch 2

#define buzzer PORTAbits.RA5 // Buzzer control

#define relay PORTAbits.RA4 // Relay control

// Function for delay

void msdelay(unsigned int time) {

unsigned int i, j;

for (i = 0; i < time; i++) {

for (j = 0; j < 275; j++); // Calibrated for a 1 ms delay in MPLAB

}

}

void main() {

unsigned char val = 0;

INTCON2bits.RBPU = 0; // Enable PORTB pull-ups

ADCON1 = 0x0F; // Set all pins as digital

TRISAbits.TRISA2 = 1; // Set RA2 as input for SW1 (lrbit)

TRISAbits.TRISA3 = 1; // Set RA3 as input for SW2 (rlbit)

TRISAbits.TRISA5 = 0; // Set RA5 as output for Buzzer

TRISAbits.TRISA4 = 0; // Set RA4 as output for Relay

TRISB = 0x00; // Set PORTB as output

PORTB = 0x00; // Initialize PORTB to 0

buzzer = 0; // Buzzer OFF initially

relay = 0; // Relay OFF initially

while (1) {

// Check if SW1 is pressed

if (!lrbit) {

val = 1;

}

// Check if SW2 is pressed

else if (!rlbit) {

val = 2;

}

if (val == 1) { // If SW1 is pressed

buzzer = 1; // Turn ON Buzzer

relay = 1; // Turn ON Relay

PORTB = PORTB >> 1; // Shift PORTB right by 1 bit

if (PORTB == 0x00) {

PORTB = 0x80; // Set MSB to 1 if PORTB is 0

}

msdelay(250);

}

else if (val == 2) { // If SW2 is pressed

buzzer = 0; // Turn OFF Buzzer

relay = 0; // Turn OFF Relay

PORTB = PORTB << 1; // Shift PORTB left by 1 bit

if (PORTB == 0x00) {

PORTB = 0x01; // Set LSB to 1 if PORTB is 0

}

msdelay(250);

}

val = 0; // Reset val for the next loop iteration

}

}