```
#include <lpc214x.h>

#define SW2 (IO0PIN & (1 << 14))//sw2 connected to P0.14
#define SW3 (IO0PIN & (1 << 15))//P0.15
#define SW4 (IO1PIN & (1 << 18))//P1.18
#define SW5 (IO1PIN & (1 << 19))//P1.19
#define SW6 (IO1PIN & (1 << 20))//P1.20

void delay_ms(unsigned int x);
void reset_values(int y);

int contUP = 0;
int contDN = 99;
unsigned int rightSFT = 1U<<7;
unsigned int leftSFT = 1;

int main()
{
IO0DIR |= 0XFF << 16;
//LED20-27 are connected to P0.16-P0.23
IO0SET = 0xFF<<16;//switch off the LEDs
while(1)
{
if(!SW2)
{
	reset_values(0);
	IO0SET = 0xFF<<16;
	IO0CLR = ((contUP/10)<<4 | (contUP%10))<<16;
	contUP++;
	if(contUP > 99) contUP = 0;
}
else if(!SW3)
{
	reset_values(1);
	IO0SET = 0xFF<<16;
	IO0CLR = ((contDN/10)<<4 | (contDN%10)) << 16;
	contDN--;
	if(contDN < 0) contDN = 99;
}
else if(!SW4)
{
	reset_values(2);
	IO0SET = 0xFF<<16;
	IO0CLR = leftSFT<<16;
	leftSFT<<=1;
	if(leftSFT > 1U<<7) leftSFT = 1;
}
else if(!SW5)
```

```
{
        reset_values(3);
        IO0SET = 0xFF<<16;
        IO0CLR = rightSFT<<16;
        rightSFT>>=1;
        if(rightSFT < 1) rightSFT = 1U<<7;
}
delay_ms(300);
}
}
void reset_values(int y)
{
switch(y)
{
        case 0: contDN = 99;
        rightSFT = 1U<<7;
        leftSFT = 1;
        break;
        case 1: contUP = 0;
        rightSFT = 1U<<7;
        leftSFT = 1;
        break;
        case 2: contUP = 0;
        contDN = 99;
        rightSFT = 1U<<7;
        break;
        case 3: contUP = 0;
        contDN = 99;
        leftSFT = 1;
        break;
}
}
void delay_ms(unsigned int ms) {
        for(int i = 0; i < ms; i++) {
        for(int x = 0; x < 10000; x++);
        }
}
```