#include "mbed.h"

#include "TextLCD.h"

BusIn input (p5,p6,p7,p9);

BusOut outputs(LED1,LED2,LED3,LED4);

TextLCD lcd(p28,p27,p26,p25,p24,p23);

DigitalIn a(p5),b(p6),c(p7),d(p9);

int i;

int Output;

char ST=1;

int main()

{

 a.mode(PullUp);

 b.mode(PullUp);

 c.mode(PullUp);

 d.mode(PullUp);

 while (1)

 {

 i=input;

 switch(ST)

 {

 case 0:

 Output=0x01;

 lcd.printf("state 0\n");

 if(((i&0x01)==0x00)||((i&0x06)==0x02))

 ST=1;

 else if((i&0x03)==0x01)

 ST=3;

 break;

 case 1:

 Output=0x03;

 lcd.printf("state 1\n");

 if((i&0x07)==0x01)

 ST=2;

 break;

 case 2:

 Output=0x07;

 lcd.printf("state 2\n");

 if((i&0x03)==0x00)

 ST=5;

 break;

 case 3:

 Output=0x0c;

 lcd.printf("state 3\n");

 if((i&0x07)==0x03)

 ST=4;

 break;

 case 4:

 lcd.printf("state 4\n");

 if((i&0x03)==0x01)

 ST=5;

 else if((i&0x01)==0x00)

 ST=1;

 break;

 case 5:

 Output=0x0f;

 lcd.printf("state 5\n");

 if((i&0x0f)==0x07)

 ST=0;

 break;

 }

 outputs = Output;

 }

}