```
#include <mega8.h>
#include <stdio.h>
#include <stdlib.h>
#include <delay.h>
#include <string.h>
#include <alcd.h>

#define empty1 PORTD.6
#define inUse1 PORTD.5
#define ready1 PORTD.4

#define Buzzer PORTD.3

#define ready2 PORTD.2
#define inUse2 PORTD.1
#define empty2 PORTD.0

#define DriveValveP PORTC.4
#define DriveValveS PORTC.5

#define TStart PORTC.2
#define pindah2 PORTC.3

#define Emergen PORTD.7
char buff[33]; unsigned int sensor=0;
float vout,x;
#define ADC_VREF_TYPE 0x00
// Read the AD conversion result
unsigned int read_adc(unsigned char adc_input)
```

```
{
ADMUX=adc_input | (ADC_VREF_TYPE & 0xff);
// Delay needed for the stabilization of the ADC input voltage
delay_us(10);
// Start the AD conversion
ADCSRA|=0x40;
// Wait for the AD conversion to complete
while ((ADCSRA & 0x10)==0);
ADCSRA|=0x10;
return ADCW;
}

// Declare your global variables here
unsigned int datadata()
 {
    vout=(float)read_adc(0)/1024.0;
    x=(float)(vout*5);
    x=(float)(x/5);
   x=(float)(x-0.04);
   return (float) (x/0.0012858);
 }

void lcd_putint(unsigned int dat)
 {
    sprintf(buff,"Tekanan:%d",dat);
    lcd_gotoxy(0,0);
    lcd_puts(buff);delay_ms(100);
 }

void emer()
```

```
 {  lcd_clear();
    lcd_gotoxy(4,0);
    lcd_puts("EMERGENCY");
    lcd_gotoxy(3,1);
    lcd_puts("check please");
    DriveValveP=0;
    DriveValveS=0;
    inUse1=1;
    ready1=1;
    ready2=1;
    inUse2=1;
    Buzzer=1;empty2=0;empty1=0;delay_ms(1000);
    Buzzer=0;empty2=1;empty1=1;delay_ms(500);
 }

void lowkan()
 {  lcd_clear();
    sensor=datadata();
    lcd_gotoxy(0,1);
    lcd_puts("Tekanan Abnormal");
    DriveValveP=0;
    DriveValveS=0;
    inUse1=1;
    ready1=1;
    ready2=1;
    inUse2=1;
    Buzzer=1;empty2=0;empty1=0;delay_ms(1000);
    Buzzer=0;empty2=1;empty1=1;delay_ms(500);
    lcd_clear();
 }
```

```
void main(void)

{

// Input/Output Ports initialization

// Port B initialization

// Func7=In Func6=In Func5=In Func4=In Func3=In Func2=In Func1=In
Func0=In

// State7=T State6=T State5=T State4=T State3=T State2=T State1=T
State0=T

PORTB=0x00;

DDRB=0xff;


// Port C initialization

// Func6=In Func5=Out Func4=Out Func3=In Func2=In Func1=In Func0=In

// State6=P State5=0 State4=0 State3=P State2=P State1=P State0=P


PORTC=0x4F;   //PORTC.4=0;PORTC.5=0;

DDRC=0x30;


// Port D initialization

// Func7=Out Func6=Out Func5=Out Func4=Out Func3=Out Func2=Out
Func1=Out Func0=Out

// State7=0 State6=1 State5=1 State4=1 State3=0 State2=1 State1=1
State0=1

PORTD=0xf7;

DDRD=0x7F;


// Timer/Counter 0 initialization

// Clock source: System Clock

// Clock value: Timer 0 Stopped

TCCR0=0x00;

TCNT0=0x00;
```

```
// Timer/Counter 1 initialization
// Clock source: System Clock
// Clock value: Timer1 Stopped
// Mode: Normal top=0xFFFF
// OC1A output: Discon.
// OC1B output: Discon.
// Noise Canceler: Off
// Input Capture on Falling Edge
// Timer1 Overflow Interrupt: Off
// Input Capture Interrupt: Off
// Compare A Match Interrupt: Off
// Compare B Match Interrupt: Off
TCCR1A=0x00;
TCCR1B=0x00;
TCNT1H=0x00;
TCNT1L=0x00;
ICR1H=0x00;
ICR1L=0x00;
OCR1AH=0x00;
OCR1AL=0x00;
OCR1BH=0x00;
OCR1BL=0x00;

// Timer/Counter 2 initialization
// Clock source: System Clock
// Clock value: Timer2 Stopped
// Mode: Normal top=0xFF
// OC2 output: Disconnected
ASSR=0x00;
```

```
TCCR2=0x00;
TCNT2=0x00;
OCR2=0x00;

// External Interrupt(s) initialization
// INT0: Off
// INT1: Off
MCUCR=0x00;

// Timer(s)/Counter(s) Interrupt(s) initialization
TIMSK=0x00;

// USART initialization
// USART disabled
UCSRB=0x00;

// Analog Comparator initialization
// Analog Comparator: Off
// Analog Comparator Input Capture by Timer/Counter 1: Off
ACSR=0x80;
SFIOR=0x00;

// ADC initialization
// ADC Clock frequency: 750.000 kHz
// ADC Voltage Reference: AREF pin
ADMUX=ADC_VREF_TYPE & 0xff;
ADCSRA=0x84;

// SPI initialization
// SPI disabled
```

```
SPCR=0x00;

// TWI initialization
// TWI disabled
TWCR=0x00;

// Alphanumeric LCD initialization
// Connections specified in the
// Project|Configure|C Compiler|Libraries|Alphanumeric LCD menu:
// RS - PORTB Bit 5
// RD - PORTB Bit 7
// EN - PORTB Bit 4
// D4 - PORTB Bit 3
// D5 - PORTB Bit 2
// D6 - PORTB Bit 1
// D7 - PORTB Bit 0
// Characters/line: 12
lcd_init(16);
inUse1=0;empty1=0;ready1=0;inUse2=0;empty2=0;ready2=0;Buzzer=0;
lcd_gotoxy(3,0);
lcd_puts("BISMILLAH");
delay_ms(1000);
lcd_gotoxy(0,0);
lcd_puts("SIMULASI OXIGEN");
lcd_gotoxy(5,1);
lcd_puts("MEDIS");
delay_ms(1000);
lcd_clear();
lcd_gotoxy(1,0);
lcd_puts("AFIP SAUKI A.");
```

```
lcd_gotoxy(2,1);
lcd_puts("20143010079");
delay_ms(1000);
lcd_clear();

while (1)
{
inUse1=1;empty1=1;ready1=1;inUse2=1;empty2=1;ready2=1;
if(PINC.2==0)
  { lcd_clear();
    {   if(PIND.7==0)
                {  while(1)
                {
                    emer();
                }
                }
            inUse2=1;ready2=0;inUse1=0;Buzzer=1;DriveValveP=1;
            delay_ms(500);
            sensor=datadata();
            lcd_gotoxy(12,0);lcd_puts("Kpa");
            lcd_putint(sensor);
            lcd_gotoxy(0,1);
            lcd_puts("Primer bank ON");
            Buzzer=0;
        while (sensor>149)
        {
            if(PIND.7==0){
                  while(1){
                  emer();}
                        }
```

```
if(sensor>=600){
while(1){emer();}};

DriveValveP=1;inUse1=0;ready2=0;

if (sensor>=149 && sensor<=600)
{
ready1=1;
inUse1=0;
empty1=1;
}
if (PINC.3==0)
{
empty2=1;
ready2=0;
}
if(sensor<=345 && PIND.4==0)
    {
    Buzzer=0;
    }

else if(sensor<=276){
Buzzer=1;
delay_ms(1000);
Buzzer=0;
delay_ms(500);}

if(sensor>=504){
Buzzer=1;
```

```
            delay_ms(1000);
            Buzzer=0;
            delay_ms(500);}

            sensor=datadata();
            lcd_putint(sensor);
            delay_ms(10);
            lcd_gotoxy(0,1);
            lcd_puts("Primer bank ON");
            }  ready2=1;


    while(2)
       {
                if(PIND.7==0)
                {  while(1){
                    emer(); }
                }

inUse1=1;ready1=1;ready2=1;empty1=0;inUse2=0;Buzzer=1;DriveValveP=0;Dr
iveValveS=1;
            sensor=datadata();
            lcd_gotoxy(12,0);lcd_puts("Kpa");
            lcd_putint(sensor);
            lcd_gotoxy(0,1);
            lcd_puts("Sekunder bank ON");
            Buzzer=1;
            delay_ms(100);
            Buzzer=0;
        while (sensor>150)
         {     if(PIND.7==0)
```

```
        {  while(1){
            emer(); }
        }
    if(sensor>=600)
        {
        while(1){emer();}};

DriveValveS=1;inUse2=0;
    if (sensor>=150 && sensor<=600)
        {
        ready2=1;
        inUse2=0;
        empty2=1;
        }
    if(PINC.3==0)
        {
            empty1=1;
            ready1=0;
        }
    if(sensor<=345 && PIND.4==0)
        {
        Buzzer=0;
        }
    else if (sensor<=200 && PINC.3==1)
        {
        Buzzer=1;
        delay_ms(500);
        Buzzer=0;
        }
```

```
            if(sensor<=276){
            Buzzer=1;
            delay_ms(1000);
            Buzzer=0;
            delay_ms(500);}

            if(sensor>=504){
            Buzzer=1;
            delay_ms(1000);
            Buzzer=0;
            delay_ms(500);}

            sensor=datadata();
            lcd_putint(sensor);
            delay_ms(10);
            lcd_gotoxy(0,1);
            lcd_puts("Sekunder bank ON");
            }
            lcd_clear();



        if(PIND.7==0)
                {  while(1){
                    emer(); }
                }

inUse2=1;ready2=1;ready1=1;empty2=0;inUse1=0;Buzzer=1;DriveValveS=0;Dr
iveValveP=1;
            sensor=datadata();
            lcd_gotoxy(12,0);lcd_puts("Kpa");
```

```
    lcd_putint(sensor);
    lcd_gotoxy(0,1);
    lcd_puts("Primer bank ON");
    Buzzer=1;
    delay_ms(100);
    Buzzer=0;

while (sensor>149)
    { if(PIND.7==0)
        {  while(1){
            emer(); }
        }
        if(sensor>=600)
        {
         while(1){lowkan();
         if(sensor<=600){break;}}
        }
    DriveValveP=1;inUse1=0;
    if (sensor>=149 && sensor<=600)
        {
        ready1=1;
        inUse1=0;
        empty1=1;
        }
    if (PINC.3==0)
        {
        empty2=1;
        ready2=0;
        }
    if(sensor<=200 && PIND.2==0)
```

```
            {
            Buzzer=0;
            }
        else if (sensor<=200 && PINC.3==1)
            {
            Buzzer=1;
            delay_ms(500);
            Buzzer=0;
            }

        if(sensor<=276){
        Buzzer=1;
        delay_ms(1000);
        Buzzer=0;
        delay_ms(500);}

        if(sensor>=504){
        Buzzer=1;
        delay_ms(1000);
        Buzzer=0;
        delay_ms(500);}

        sensor=datadata();
        lcd_putint(sensor);
        delay_ms(10);
        lcd_gotoxy(0,1);
        lcd_puts("Primer bank ON");
        }lcd_clear();
    }
}
```

```
    }

   else
   {
     lcd_gotoxy(1,1);
     lcd_puts("Tekan Start !!");
     Buzzer=0;
   }
 }
}
```