

LAMPIRAN – LAMPIRAN



SEKOLAH TINGGI TEKNIK – PLN

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#include <mega8.h>
#include <delay.h>
#include <stdio.h>

// Alphanumeric LCD Module functions
#include <alcd.h>

#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;
}

#define cooler_on PORTC.4=0
#define cooler_off PORTC.4=1
#define fan_on PORTC.3=1
#define fan_off PORTC.3=0
#define pump_on PORTC.2=0
#define pump_off PORTC.2=1
#define enter PINB.0
#define up PINB.1
#define down PINB.2
#define buz_on PORTC.1=1
#define buz_off PORTC.1=0

char lcd_buffer[33];
float temp_set_suhu,suhu;
unsigned int temp_suhu,i;
eeprom float set_suhu;

//set suhu-----

void menu()
{
    lcd_clear();cooler_off;
    lcd_gotoxy(0,0);lcd_putsf("SET MAX TEMP");
    while (enter==1){}
    while (enter==0)
    {
        if (up==1){set_suhu=set_suhu+.5;delay_ms(300);}
        if (down==1){set_suhu=set_suhu-0.5;delay_ms(300);}
        temp_set_suhu=((float)set_suhu*5);
        sprintf(lcd_buffer,"Temp:% 0.1f%cC ",set_suhu,0xdf);
    }
}

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lcd_gotoxy(0,1);lcd_puts(lcd_buffer);
}

while (enter==1){delay_ms(100);};
lcd_clear();
}

//-----
void main(void)
{
PORTB=0x0f;DDRB=0x00;
PORTC=0x00;DDRC=0x1C;

ACSR=0x80;
SFIOR=0x00;

// ADC initialization
// ADC Clock frequency: 1000.000 kHz
// ADC Voltage Reference: AREF pin
ADMUX=ADC_VREF_TYPE & 0xff;
ADCSRA=0x83;
// Alphanumeric LCD initialization
// Connections specified in the
// Project|Configure|C Compiler|Libraries|Alphanumeric LCD menu:
// RS - PORTD Bit 7
// RD - PORTD Bit 6
// EN - PORTD Bit 5
// D4 - PORTD Bit 3
// D5 - PORTD Bit 2
// D6 - PORTD Bit 1
// D7 - PORTD Bit 0
// Characters/line: 16
lcd_init(16);
cooler_off;pump_off;
if (set_suhu<0){set_suhu=26;temp_set_suhu=((float)set_suhu*5)/10;}

while (1)
{
suhu=0;lcd_gotoxy(0,0);lcd_putsf("COOLER BOX");
for (i=0;i<=1000;i++){
temp_suhu=read_adc(5);suhu=suhu+ ((float)temp_suhu*5)/1023;}
suhu=(suhu/4.143)/10;
sprintf(lcd_buffer,"Temp:% 0.1f%cC ",suhu,0xdf);
lcd_gotoxy(0,1);lcd_puts(lcd_buffer);
if (enter==1){while (enter==1){};menu();}
if (suhu>= set_suhu){cooler_on;pump_on;fan_on;}
if (suhu<= set_suhu-2){cooler_off;pump_off;fan_on;}

}
}

```