

File: adc3.c, Date: 4/23/2016, Time: 8:12:20 AM

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This program was produced by the

CodeWizardAVR V2.05.3 Standard

Automatic Program Generator

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Project :

Version :

Date : 4/16/2016

Author : Reza

Company :

Comments:

Chip type : ATmega64
Program type : Application
AVR Core Clock frequency: 8.000000 MHz
Memory model : Small
External RAM size : 0
Data Stack size : 1024

******/*

#include <mega64.h>

#include <delay.h>

#define ADC_VREF_TYPE 0x00

#define PORT_OUTPUT 0xFF

#define PORT_INPUT 0x00

#define SS_0 0x3F

#define SS_1 0x06

#define SS_2 0x5B

#define SS_3 0x4F

#define SS_4 0x66

#define SS_5 0x6D

#define SS_6 0x7D

#define SS_7 0x07

#define SS_8 0x7F

#define SS_9 0x6F

void SetSevenSegment(**int** OutNum)

{

switch (OutNum)

 {

case 0:

 PORTC = SS_0;

break;

case 1:

 PORTC = SS_1;

break;

case 2:

 PORTC = SS_2;

break;

case 3:

```
    PORTC = SS_3;
    break;

    case 4:
        PORTC = SS_4;
        break;

    case 5:
        PORTC = SS_5;
        break;
    case 6:
        PORTC = SS_6;
        break;
    case 7:
        PORTC = SS_7;
        break;
    case 8:
        PORTC = SS_8;
        break;
    case 9:
        PORTC = SS_9;
        break;
    default:
        break;

}

}

// 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

void main(void)
{
    // Declare your local variables here
    int adcVal;
    // Input/Output Ports initialization
    // Port A 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
    PORTA=0x00;
    DDRA=0x00;
```

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```
// 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=0x00;

// Port C initialization
// Func7=Out Func6=Out Func5=Out Func4=Out Func3=Out Func2=Out Func1=Out Func0=Out
// State7=0 State6=0 State5=0 State4=0 State3=0 State2=0 State1=0 State0=0
PORTC=0x00;
DDRC=0xFF;

// Port D 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
PORTD=0x00;
DDRD=0x00;

// Port E 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
PORTE=0x00;
DDRE=0x00;

// Port F 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
PORTF=0x00;
DDRF=0x00;

// Port G initialization
// Func4=In Func3=In Func2=In Func1=In Func0=In
// State4=T State3=T State2=T State1=T State0=T
PORTG=0x00;
DDRG=0x00;

// ADC initialization
// ADC Clock frequency: 1000.000 kHz
// ADC Voltage Reference: AREF pin
ADMUX=ADC_VREF_TYPE & 0xff;
ADCSRA=0x83;

while (1)
{
    // Place your code here
    adcVal = read_adc(0);
    adcVal /= 100;
    SetSevenSegment(adcVal);
}
```