



Faculty of Engineering and Technology  
Electrical and computer Engineering Department

Engineering Simulation Laboratory  
ENEE 4104

Report about  
Assignment.2

Controlling speed of DC-motor using mikro-c and protues programs

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Date : 30/10/2014

Section #1

Code :

```
bit on_state ,direction_state;
int duty ,x, v ;
int var=1;
int txt[6];
int pushbutton1 ;
int pushbutton2;
// Lcd pinout settings
sbit LCD_RS at RB3_bit;
sbit LCD_EN at RB4_bit;
sbit LCD_D7 at RD7_bit;
sbit LCD_D6 at RD6_bit;
sbit LCD_D5 at RD5_bit;
sbit LCD_D4 at RD4_bit;

// Pin direction
sbit LCD_RS_Direction at TRISB3_bit;
sbit LCD_EN_Direction at TRISB4_bit;
sbit LCD_D7_Direction at TRISD7_bit;
sbit LCD_D6_Direction at TRISD6_bit;
sbit LCD_D5_Direction at TRISD5_bit;
sbit LCD_D4_Direction at TRISD4_bit;

void main()
{
    lcd_init();
    Lcd_Cmd(_LCD_CURSOR_OFF);

    trisd=0b00000011;
    trisb=0;
    trisc=0;
    pwm1_set_duty(duty);
    pwm2_set_duty(duty);

    lcd_out(1,1,"Iman Abu_Ayyash");
    lcd_out(2,1,"1111568");
    delay_ms(5000);
    lcd_cmd(_lcd_clear);
    option_reg.f0=0;
    option_reg.f1=0;
    pwm1_init(1000);
    pwm2_init(1000);
    for(;;){
        x=ADC_Read(0);
        duty = x/4;
        v=(duty/2.55);
        intTostr(v,txt);
        if(portd.b0==0) {
            pushbutton1=0;
        }
        if(portd.b0==1){
            if(pushbutton1==0)
            {on_state =~on_state;
            pushbutton1=1;
            } }
        if(portd.b1==0) {
            pushbutton2=0;
        }
    }
}
```

```
if(portd.b1==1) {
if(pushbutton2==0)
(direction_state =~direction_state;
pushbutton2=1;
) }
if ( on_state==1)
( if ( direction_state==0)
(
pwm1_start();
pwm1_set_duty(duty);
pwm2_stop();
PORTd.b2=1;
PORTd.b3=0;
if(var==1||var==2)
{var=0;
lcd_cmd(_lcd_clear);
}
lcd_out(1,1,"speed");
lcd_out(1,6,txt);
lcd_out(2,1,"ON,CW");
}

if ( direction_state==1)
(
pwm1_stop();
```

```
pwm2_start();
pwm2_set_duty(duty);
PORTd.b3=1;
PORTd.b2=0;
if(var==0||var==2)
{var=1;
lcd_cmd(_lcd_clear);
}
lcd_out(1,1,"Speed");
lcd_out(1,6,txt);
lcd_out(2,1,"on, CCW");}
}
else
{
pwm1_set_duty(0);
pwm2_set_duty(0);
PORTd.b3=0;
PORTd.b2=0;
if(var==0|| var==1)
{var=2;
lcd_cmd(_lcd_clear);
}
lcd_out(1,1,"OFF");
}}}
```

# Results:



