```c
/*
Simple PWM Project
Code Listed By Sujjad
RC2 - PWM Output from Micro-Controller
Con - ADC input for controlling PWM duty cycle

Compiler MikroC Pro 4.15
Micro-Controller PIC16f877A
LCD Display - 32*2
Simulation Software protious ISIS Professional

PWM duty cycle range (50% - 100%)
Frequency 500Hz
Servo motor Angel (-90 to +90) degree
*/

// LCD module connections
sbit LCD_RS at RB2_bit;
sbit LCD_EN at RB3_bit;
sbit LCD_D4 at RB4_bit;
sbit LCD_D5 at RB5_bit;
sbit LCD_D6 at RB6_bit;
sbit LCD_D7 at RB7_bit;

sbit LCD_RS_Direction at TRISB2_bit;
sbit LCD_EN_Direction at TRISB3_bit;
sbit LCD_D4_Direction at TRISB4_bit;
sbit LCD_D5_Direction at TRISB5_bit;
sbit LCD_D6_Direction at TRISB6_bit;
sbit LCD_D7_Direction at TRISB7_bit;
// End LCD module connections

unsigned int temp_res;
int duty = 0;          //Initial value for duty
char value[5];

void main()
{
CMCON = 0x07;
ADCON1 = 0x80;

TRISA0_bit = 1;
TRISC2_bit = 0;

PWM1_Init (500);       //Initialize PWM1
PWM1_Start();          //Start PWM1
PWM1_Set_Duty(duty);

LCD_Init();
LCD_Cmd(_LCD_CLEAR);
LCD_Cmd(_LCD_CURSOR_OFF);

LCD_Out(1,1, "PWM TEST        FREQUENCY  :500Hz");
```

```c
LCD_Out(2,1,"Sujjad O_O     FRAME RATE : ");

while (1)
{
temp_res = ADC_Read (0);
duty=(((float)temp_res+1)/1024)*255;
/*
        Converting ADC_Read value into float :(float)ADC_Read(x)
        Finding the Desimal value : float value devided by 1024

        In Servo motor :
        255 is for 100% duity cycle      (+90 degree)
        127 is for 50% duty cycle        (-90 degree)
*/

PWM1_Set_Duty(duty);

duty = ((duty+1)*100)/256;

if (duty == 100)
{
value[0] = (duty/100) + 48;
value[1] = (duty/10)%10 + 48;
value[2] =  duty%10 + 48;
value[3] = '%';
value[4] = '\0';
}

else
{
value[0] = ' ';
value[1] = (duty/10) + 48;
value[2] =  duty%10 + 48;
value[3] = '%';
value[4] = '\0';
}

LCD_Out(2,28,value);
Delay_ms(10);
}
}
```