```c
 //Batch:-C2
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 //Roll no:- 213030
 //PRN no:- 22310856
 //EXPT- 7 AVR + ACD+ LCD interfacing



#define F_CPU 8000000UL /*define CPU frequency 8MHz*/
#include <avr/io.h>
#include <util/delay.h>
#include <stdio.h>
#include <string.h>

#define LCD_Data_Dir DDRC
#define LCD_Command_Dir DDRD
#define LCD_Data_Port PORTC
#define LCD_Command_Port PORTD
#define RS PD7                  /* register select*/
#define RW PD6                  /* read/write*/
#define EN PD5                  /*Enable*/

#define degree_sysmbol 0xdf

void LCD_Command(unsigned char cmnd){
    LCD_Data_Port= cmnd;
    LCD_Command_Port &= ~(1<<RS);
    LCD_Command_Port &= ~(1<<RW);
    LCD_Command_Port |= (1<<EN);
    _delay_us(1);
    LCD_Command_Port &= ~(1<<EN);
    _delay_ms(2);
}

void LCD_Char (unsigned char char_data)
{
    LCD_Data_Port= char_data;
    LCD_Command_Port |= (1<<RS);
    LCD_Command_Port &= ~(1<<RW);
    LCD_Command_Port |= (1<<EN);
    _delay_us(1);
    LCD_Command_Port &= ~(1<<EN);
    _delay_ms(2);
}

void LCD_Init (void)
{
    LCD_Command_Dir = 0xFF;
    LCD_Data_Dir = 0xFF;
    _delay_ms(20);

    LCD_Command(0x38);
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    LCD_Command(0x0C);
    LCD_Command(0x06);
    LCD_Command(0x01);
    _delay_ms(2);
    LCD_Command(0x80);

}

void ADC_Init()
{
    DDRA = 0x00;
    ADCSRA = 0x87;
    ADMUX = 0x40;
}

void LCD_String (char *str)
{
    int i;
    for(i=0;str[i]!=0;i++)
    {
        LCD_Char (str[i]);
    }
}

int ADC_Read(char channel)
{
    ADMUX = 0X40 | (channel & 0x07);
    ADCSRA |= (1<<ADSC);
    while (!(ADCSRA & (1<<ADIF)));
    ADCSRA |= (1<<ADIF);
    _delay_ms(1);
    return ADCW;
}

int main(void)
{
    char Temperature[10];
    float celsius;

    LCD_Init();
    ADC_Init();

    while(1)
    {
        LCD_Command(0x80);
        LCD_String("Temperature");
        LCD_Command(0xc0);

        celsius = (ADC_Read(0)*4.88);
        celsius = (celsius/10.00);
        celsius = ((celsius - 32)/9)*5;
        sprintf(Temperature,"%d%cC", (int)celsius, degree_sysmbol);
```

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        LCD_String(Temperature);

        _delay_ms(1000);
    }
}
```