***CODE UPLOADED ON ARDUINO***

#include <liquidCrystal.h>

const int rs=12, en=11, d4=5, d5=4, d6=3, d7=2;

LiquidCrystal lcd(rs, en, d4, d5, d6, d7);

int sensor = A0;

int gas;

int buzzer=10;

void setup(){

Serial.begin(9600);

lcd.begin(16,2);

pinMode(sensor,INPUT);

pinMode(buzzer,OUTPUT);

}

void loop(){

gas=digitalRead(sensor);

lcd.setCursor(0,0);

if(gas>300){

tone(buzzer,1000);

}

else{

noTone(buzzer);

}

lcd.print("Gas Level: ");

lcd.print(gas);

delay(1000);

}

***ASM EQUIVALENT:***

INCLUDE Irvine32.inc

.data

rs dword 12

en dword 11

d4 dword 5

d5 dword 4

d6 dword 3

d7 dword 2

gas dword ?

buzzer dword 10

msg1 byte "Enter value of sensor : ",0

msg2 byte "Enter value for gas : ",0

msg3 byte "Gas level is above 3000 and buzzer is beeping",0

msg4 byte "Gas level is below 3000 and buzzer is not beeping",0

.code

main Proc

mov eax , 0

mov ebx , 0

mov ecx , 0

mov edx , 0

mov esi , 0

mov edi , 0

call crlf

mov edx , offset msg2

call writestring

call readdec

mov gas , eax

; passing to function lcd in Liquidcrystal library

call loop1

exit

main endp

setup proc

; serial.begin called and 9600 passed

; lcd.begin called and 16 with 2 is passed

; pinmode is called twice with passing of sensor and input in first call

; and buzzer and output in the second call

ret

setup endp

loop1 proc

; lcd.setcursor called with passing of 0 and 0

mov eax , gas

mov ebx , 3000

cmp eax , ebx

ja tone

; notone function is called with passing of buzzer

; lcd.print called with "Gas level : " passed

; lcd.print called with gas passed as parameter

; delay of 1000 miliseconds

mov edx , offset msg4

call writestring

jmp last

tone :

; tone function is called with buzzer and 1000 passed in its parameters

mov edx , offset msg3

call writestring

jmp last

last :

ret

loop1 endp

end main