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سكشن : 2
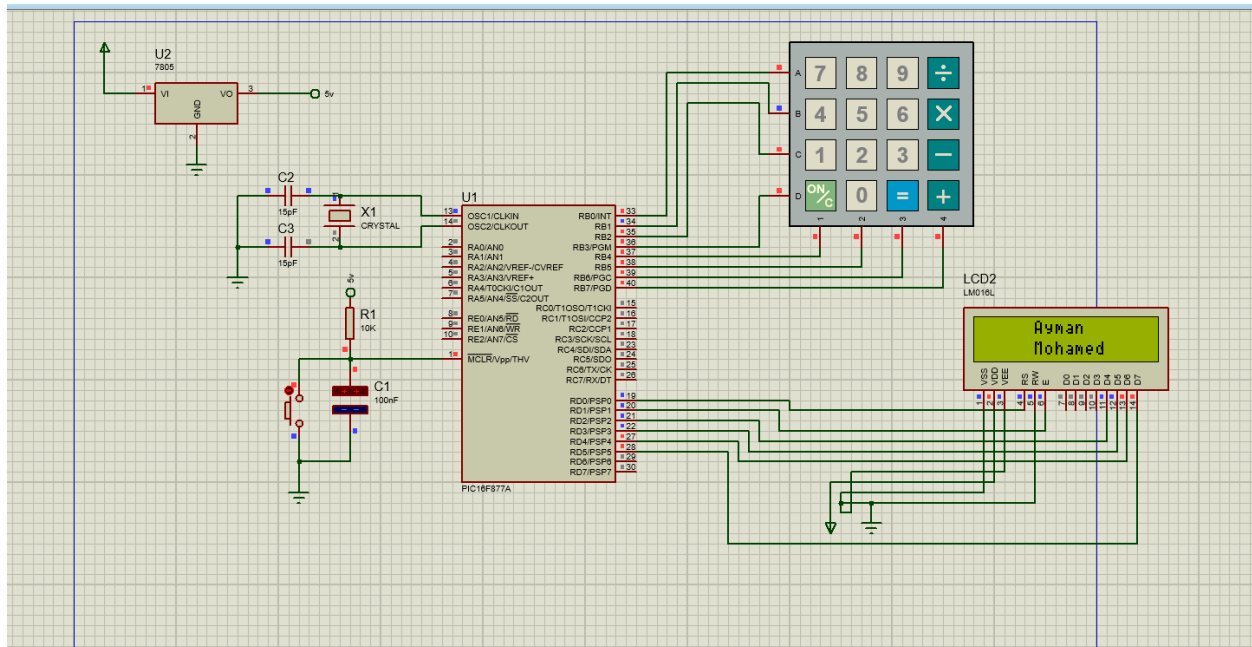
قسم هندسة الحاسبات ونظم التحكم

Lab 7 – Task

Smart Lock

....

Screenshot of the circuit

Code:

```c
/*
 * File:   main.c
 * Author: engay
 *
 * Created on April 17, 2024, 5:36 PM
 */



#include <xc.h>
#define _XTAL_FREQ (8000000)

#include "common.h"
#include "keypad.h"
#include "lcd.h"

#define delay __delay_ms

char Get_Password(void)
{
    int i;
    int state=0;
```

```
lcd_cmd(_LCD_CLEAR);
lcd_cmd(_LCD_RETURN_HOME);
lcd_cmd(_LCD_CURSOR_OFF);
lcd_out(1,1,"Enter the password");
char pass;

lcd_set_cursor(2,1);
for(i=0;i<4;i++)
{
    pass='\0';
    while(pass=='\0')
     {
         pass=keypad_get_key();
     }
     lcd_chr_cp(pass);

    if(pass!=i+1+48)
    {
        state++;
    }
}
delay(200); // for seeing the last num
return state==0?1:0;
```

```c
    }

void main(void) {
    lcd_init();
    keypad_init();

    lcd_cmd(_LCD_CLEAR);
    lcd_cmd(_LCD_RETURN_HOME);
    lcd_cmd(_LCD_CURSOR_OFF);

    lcd_out(1,1,"WELCOME USER");
    delay(2000);

    int i;
    char flag=0;
    while(1)
    {
        flag=Get_Password();
        if(flag==1)
        {
            break;
        }
        lcd_cmd(_LCD_CLEAR);
```

```
            lcd_cmd(_LCD_RETURN_HOME);
            lcd_cmd(_LCD_CURSOR_OFF);
            lcd_out(1,1,"WRONG PASSWORD");
            delay(1500);

    }

    lcd_cmd(_LCD_CLEAR);
    lcd_cmd(_LCD_RETURN_HOME);
    lcd_cmd(_LCD_CURSOR_OFF);
    lcd_out(1,1,"Ayman");
    lcd_out(2,1,"Mohamed");

    while(1)
    {

    for(i=0;i<8;i++)
    {
        lcd_cmd(_LCD_SHIFT_RIGHT);
        delay(300);
    }

    for(i=0;i<8;i++)
```

```
      {
           lcd_cmd(_LCD_SHIFT_LEFT);
           delay(300);
      }


      }




      return;
 }
```