

المتحكمات الصغيرة والنظم المضمنة محاضرة عملي

إعداد:

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إشراف:

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تدريب 1:

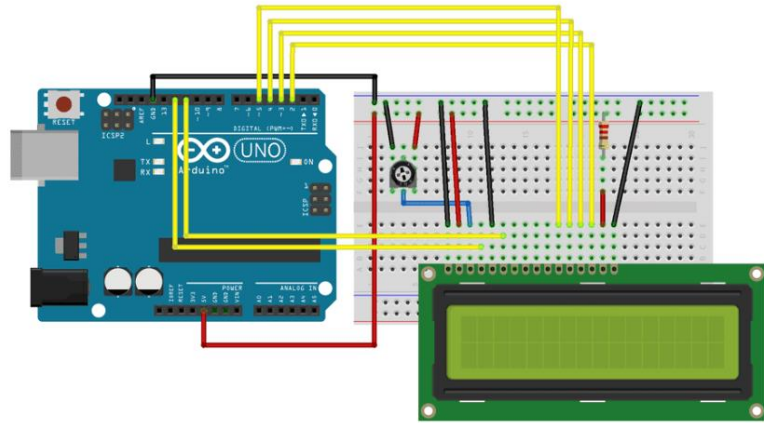
استخدام شاشة LCD للعرض

القطع:

- أردوينو
- شاشة LCD

الدارة:

- ◆ LCD RS pin to digital pin 12
- ◆ LCD Enable pin to digital pin 11
- ◆ LCD D4 pin to digital pin 5
- ◆ LCD D5 pin to digital pin 4
- ◆ LCD D6 pin to digital pin 3
- ◆ LCD D7 pin to digital pin 2
- ◆ LCD R/W pin to GND
- ◆ LCD VSS pin to GND
- ◆ LCD VCC pin to 5V
- ◆ LCD LED+ to 5V through a 220 ohm resistor
- ◆ LCD LED- to GND



```
#include <LiquidCrystal.h>
```

```
// initialize the library by associating any needed LCD interface pin  
// with the arduino pin number it is connected to
```

```
const int rs = 12, en = 11, d4 = 5, d5 = 4, d6 = 3, d7 = 2;  
LiquidCrystal lcd(rs, en, d4, d5, d6, d7);
```

```
void setup() {  
  // set up the LCD's number of columns and rows:  
  lcd.begin(16, 2);  
  // Print a message to the LCD.  
  lcd.print("hello, world!");  
}
```

```
void loop() {  
  // set the cursor to column 0, line 1  
  // (note: line 1 is the second row, since counting begins with 0):  
  lcd.setCursor(0, 1);  
  // print the number of seconds since reset:  
  lcd.print(millis() / 1000);  
}
```

البرنامج: