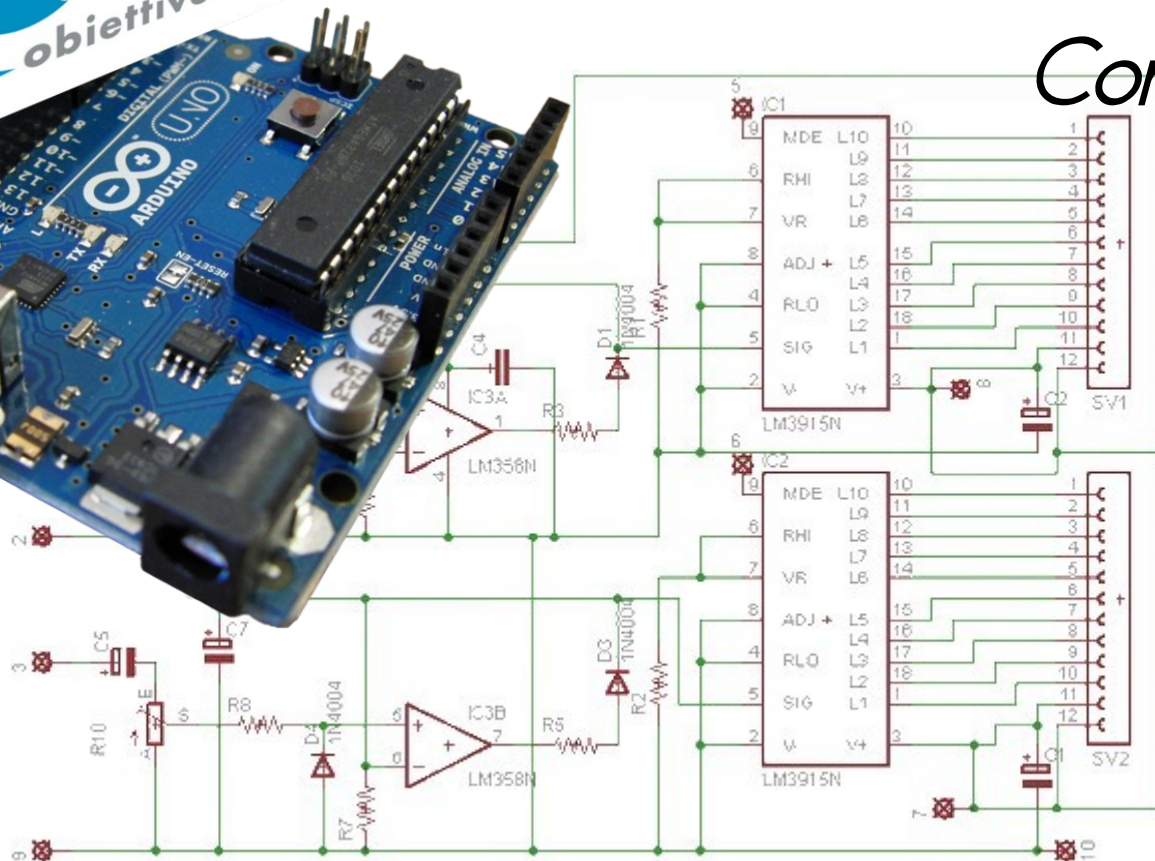


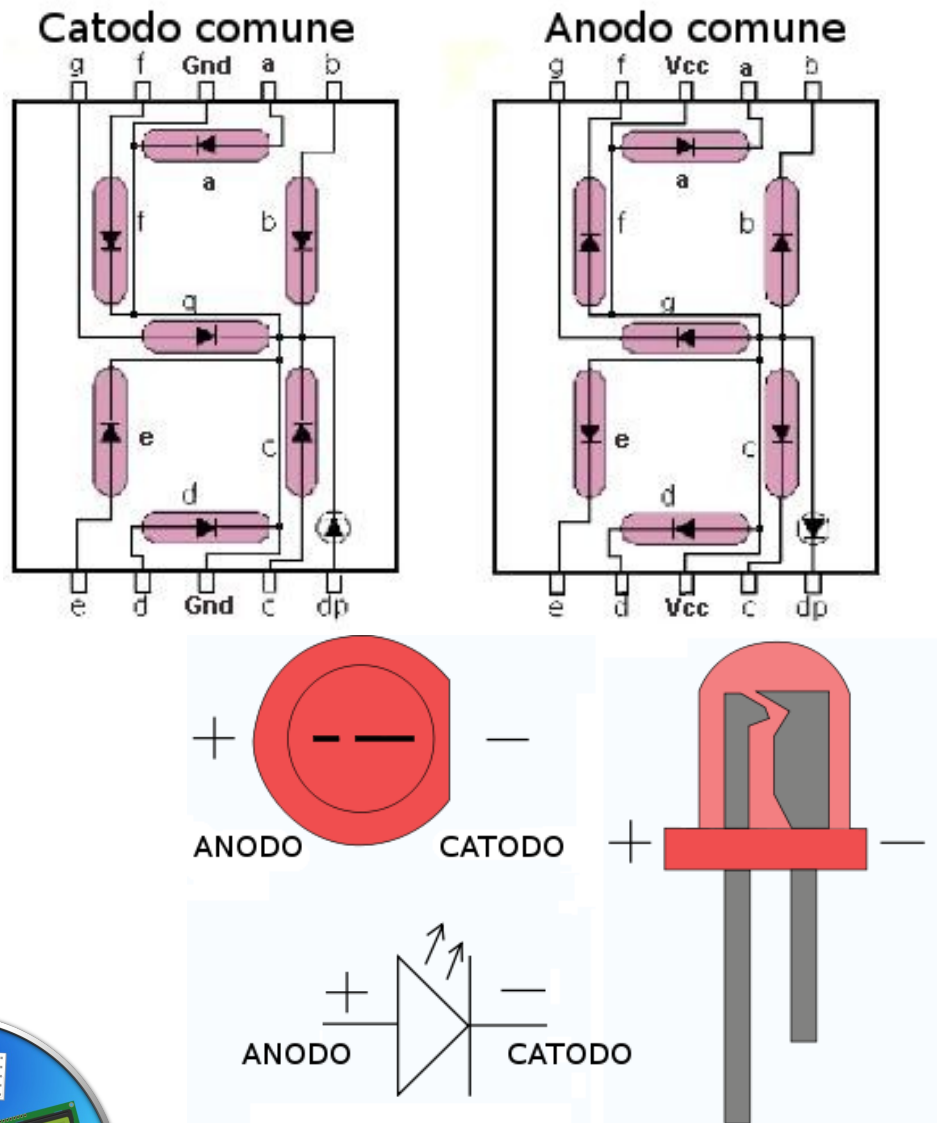
CORSO ARDUINO



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Stefano Panichi
Corso ASEV 2014

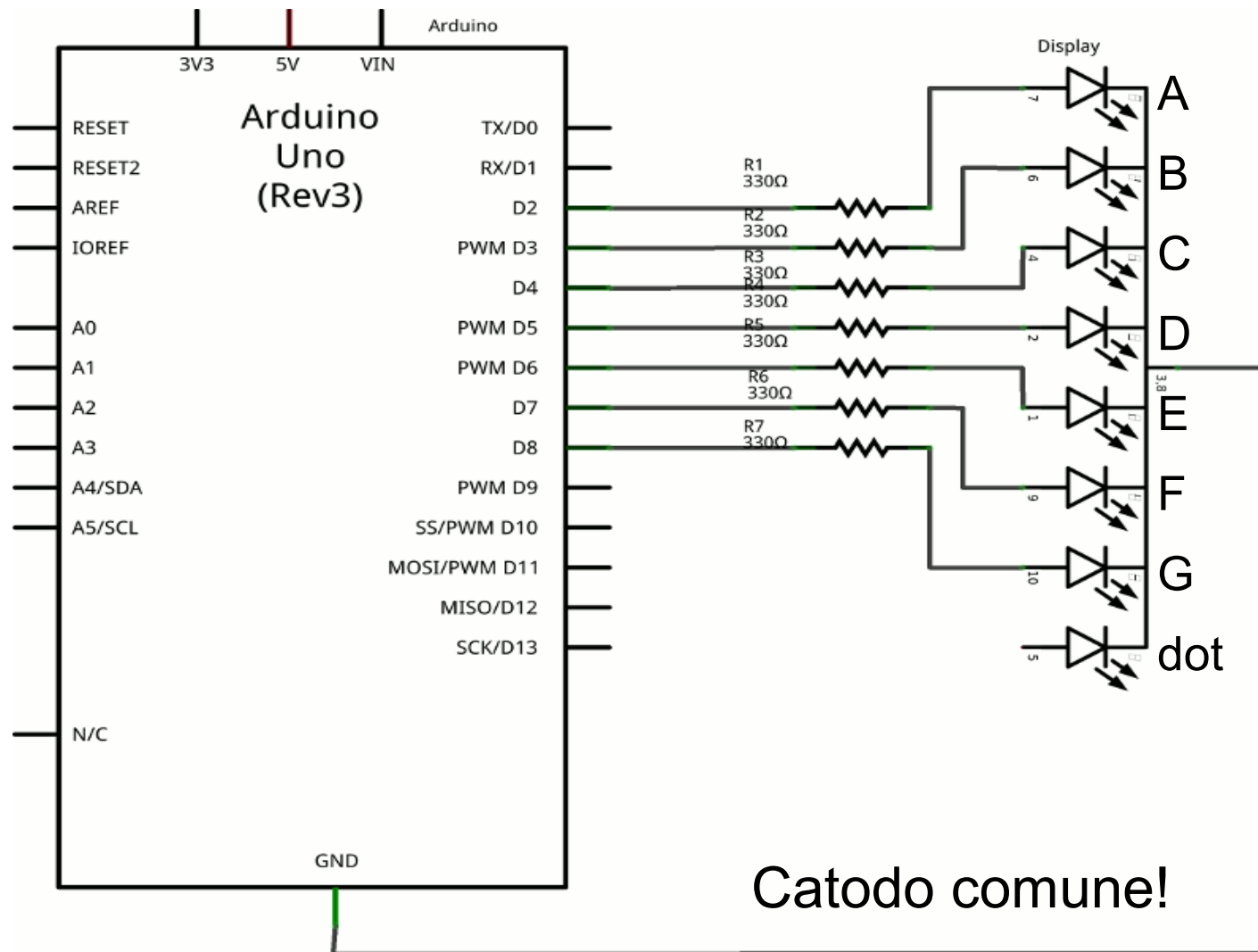


Display 7 segmenti



- Sono formati da 8 led disposti in 7 linee e un punto;
- Il circuito interno può avere i catodi dei led collegati insieme (*catodo comune*), o con gli anodi (*anodo comune*);
- Il pinout è differente per ogni modello: va consultato il relativo **datasheet**.

Circuito 7 segmenti



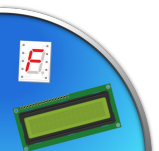
fritzing

Listato 7 segmenti

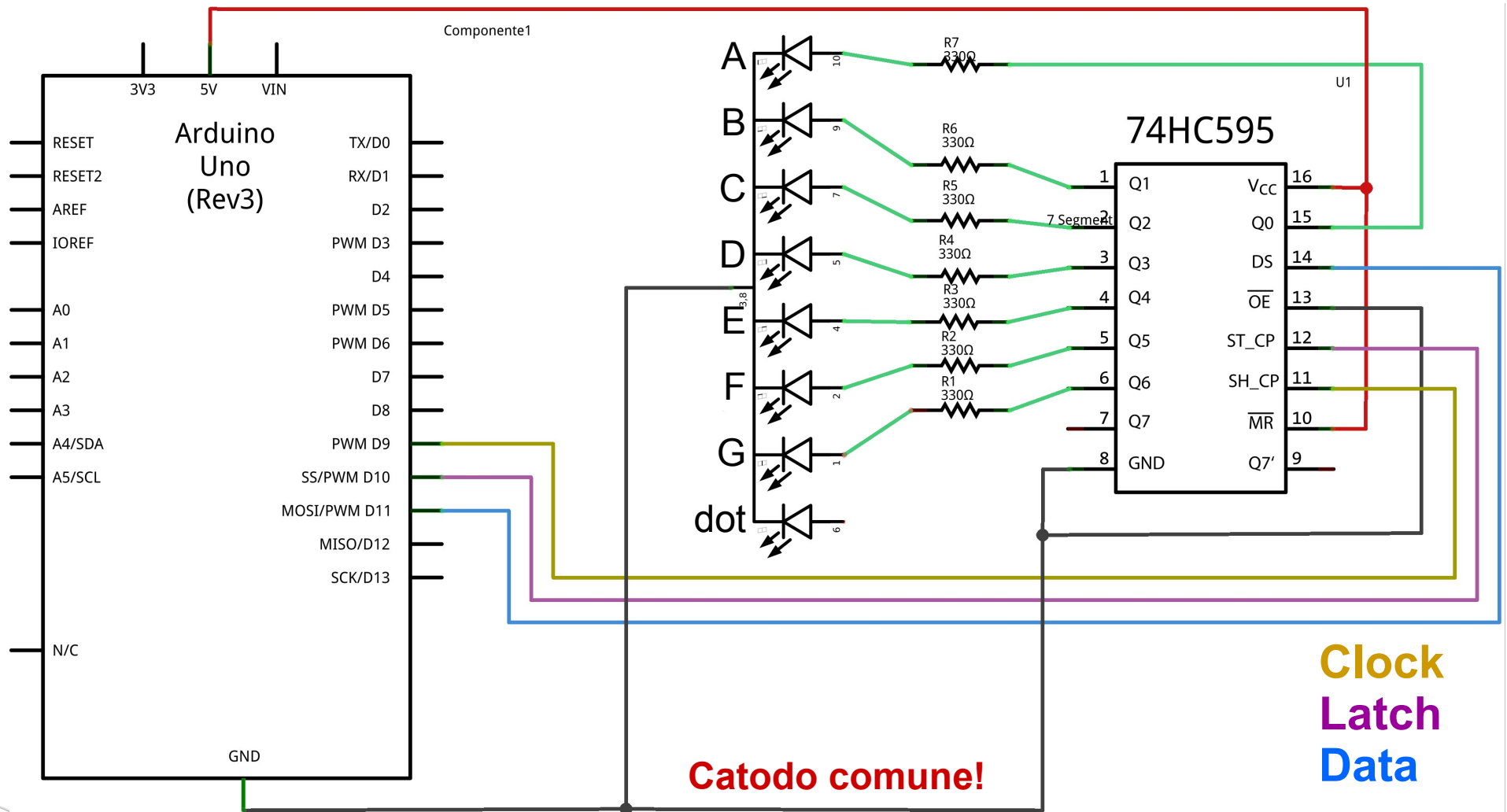
```
#include <SevSeg.h>
SevSeg display = SevSeg(2,3,4,5,6,7,8,COMMON_CATHODE);

void setup(){ /*vuoto*/ }

void loop()
{
    for (byte i=0; i<=9; i++){
        display.print(i); //illumina le cifre da 0 a 9
        delay(1000);
    }
}
```

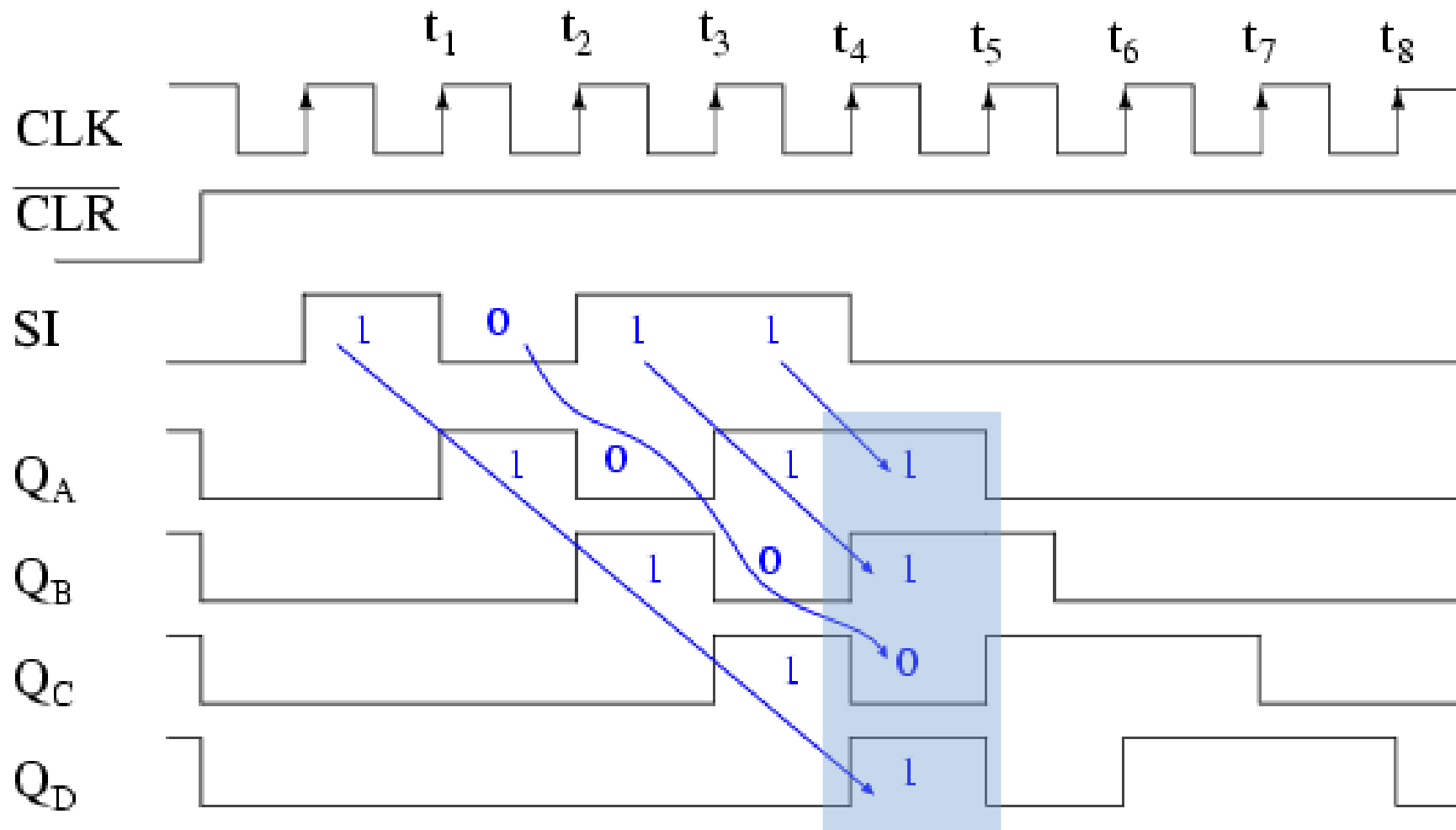


7 segmenti: con shift register



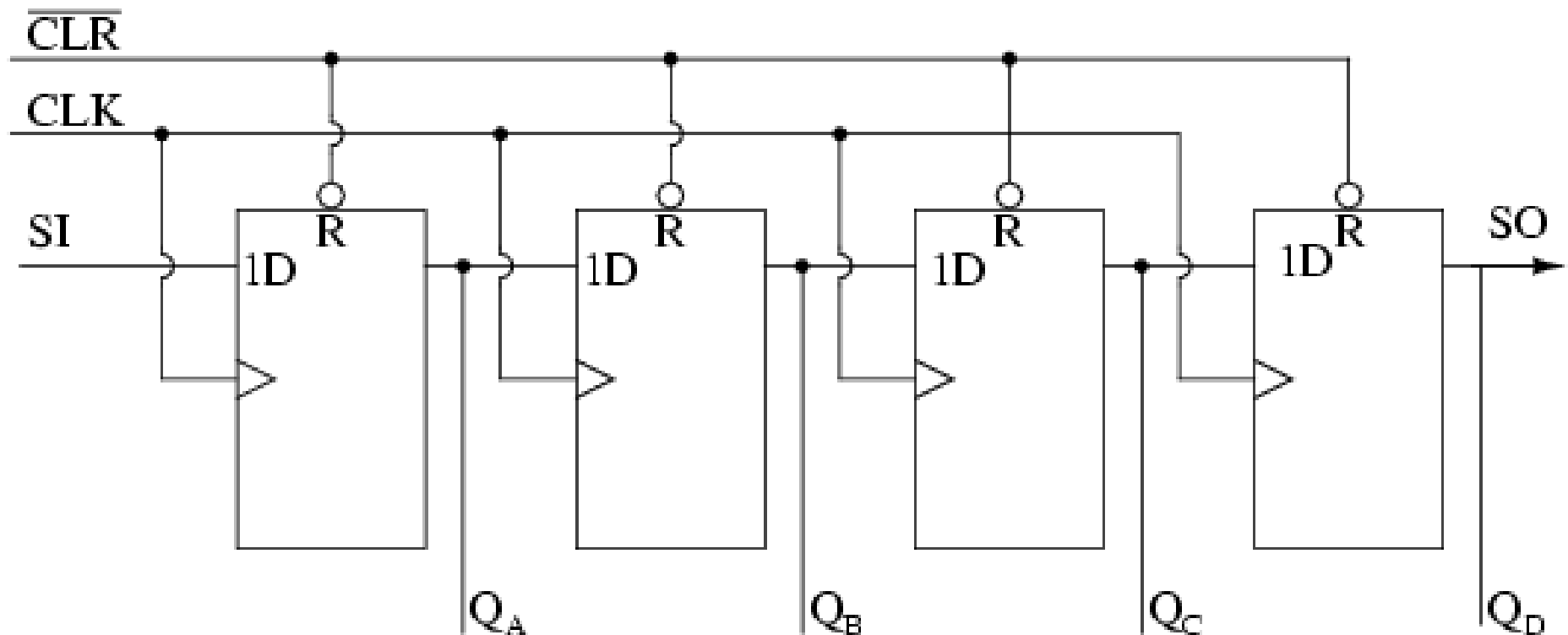
fritzing

Shift register nel dettaglio

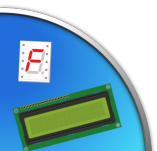


Serial-in/ parallel-out shift register waveforms

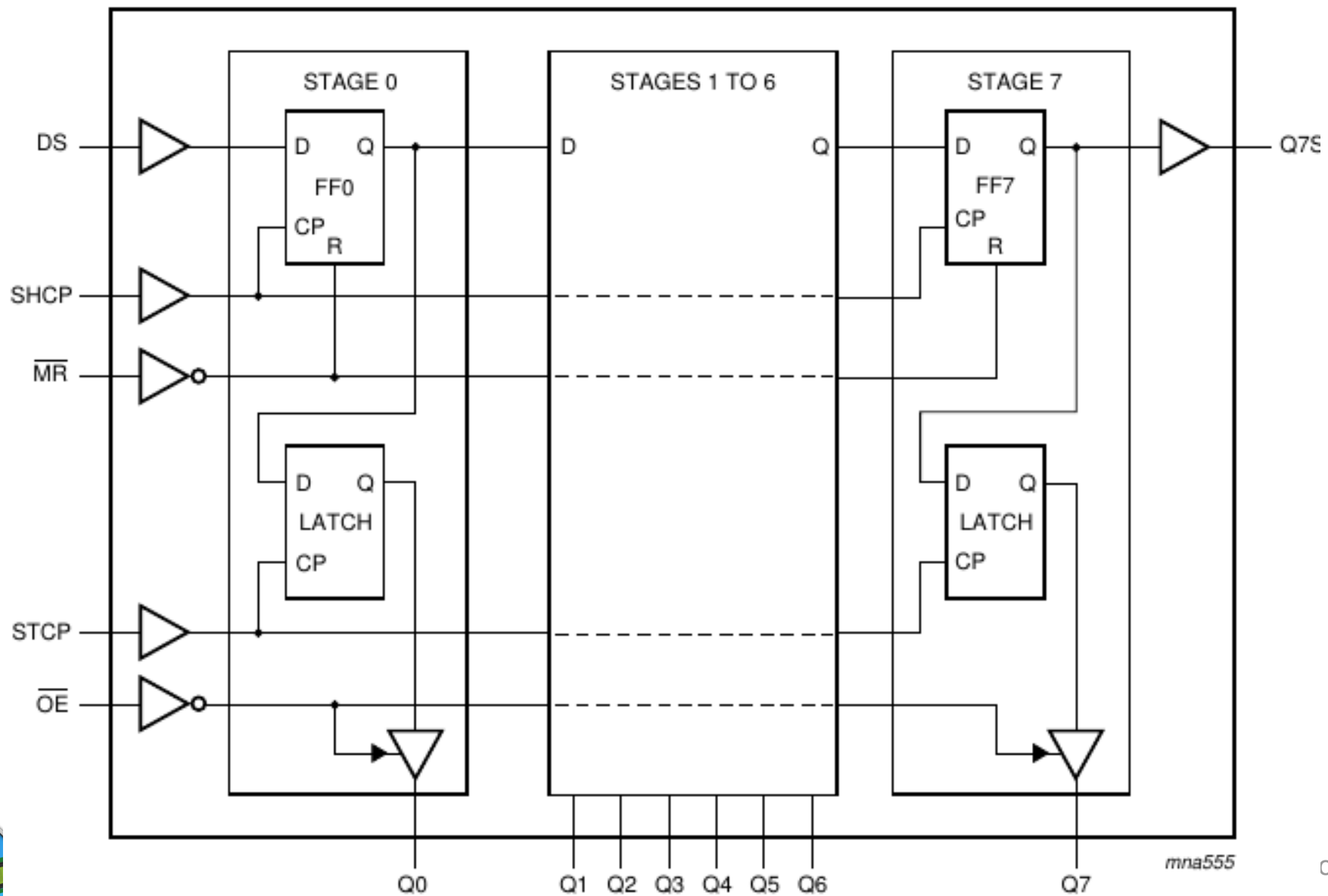
Shift register nel dettaglio



Serial-in/ Parallel out shift register details



Shift register nel dettaglio



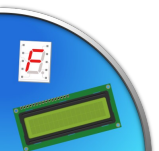
Listato

```
#include <SevSeg.h>

SevSeg display = SevSeg(9, 10, 11, COMMON_CATHODE);

void setup(){
    // non c'è niente qui...
}

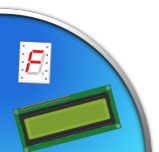
void loop()
{
    for (byte i=0; i <= 9; i++){
        display.print(i); // illumina le cifre da 0 a 9
        delay(1000);
    }
}
```



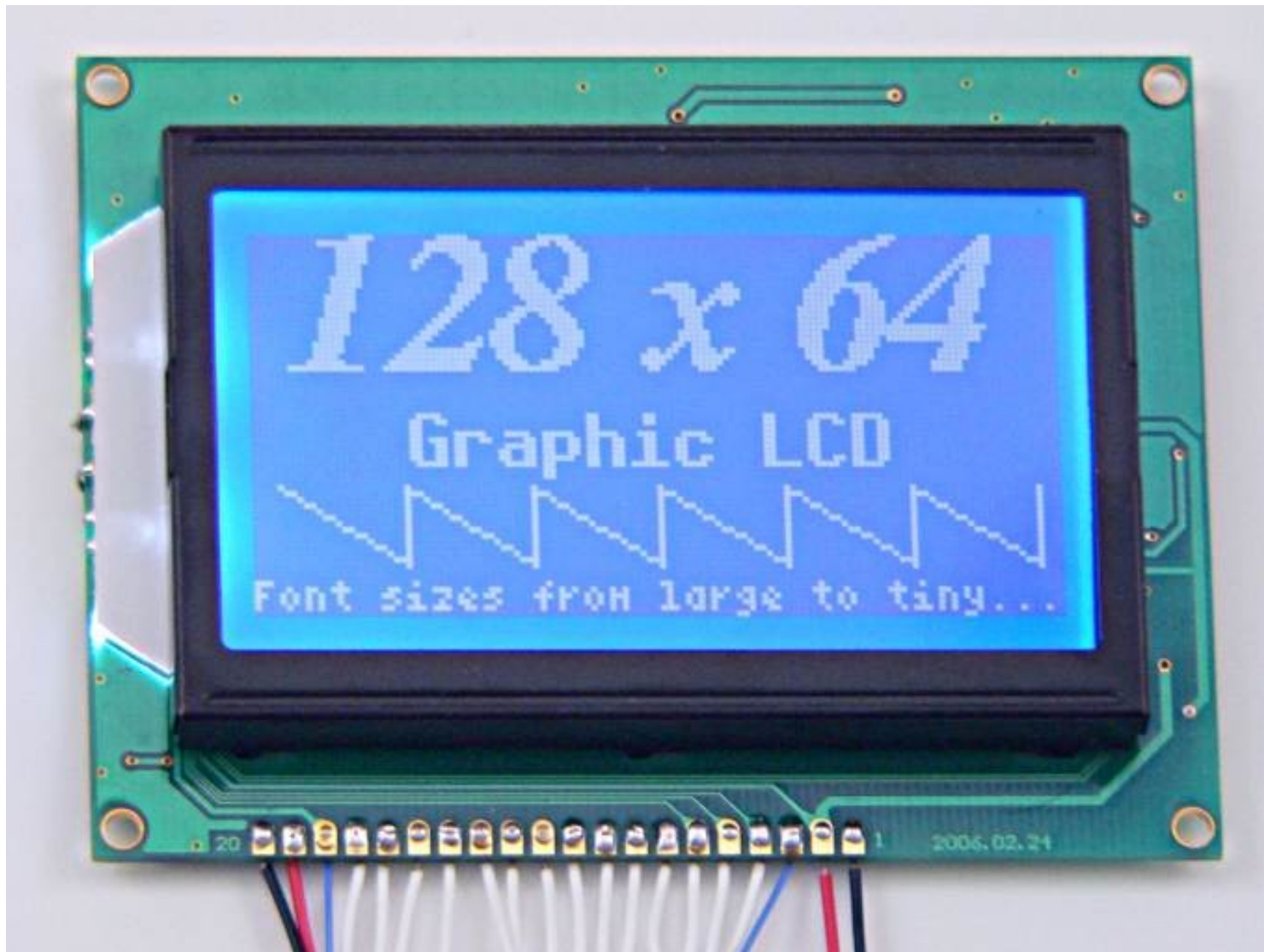
Display LCD



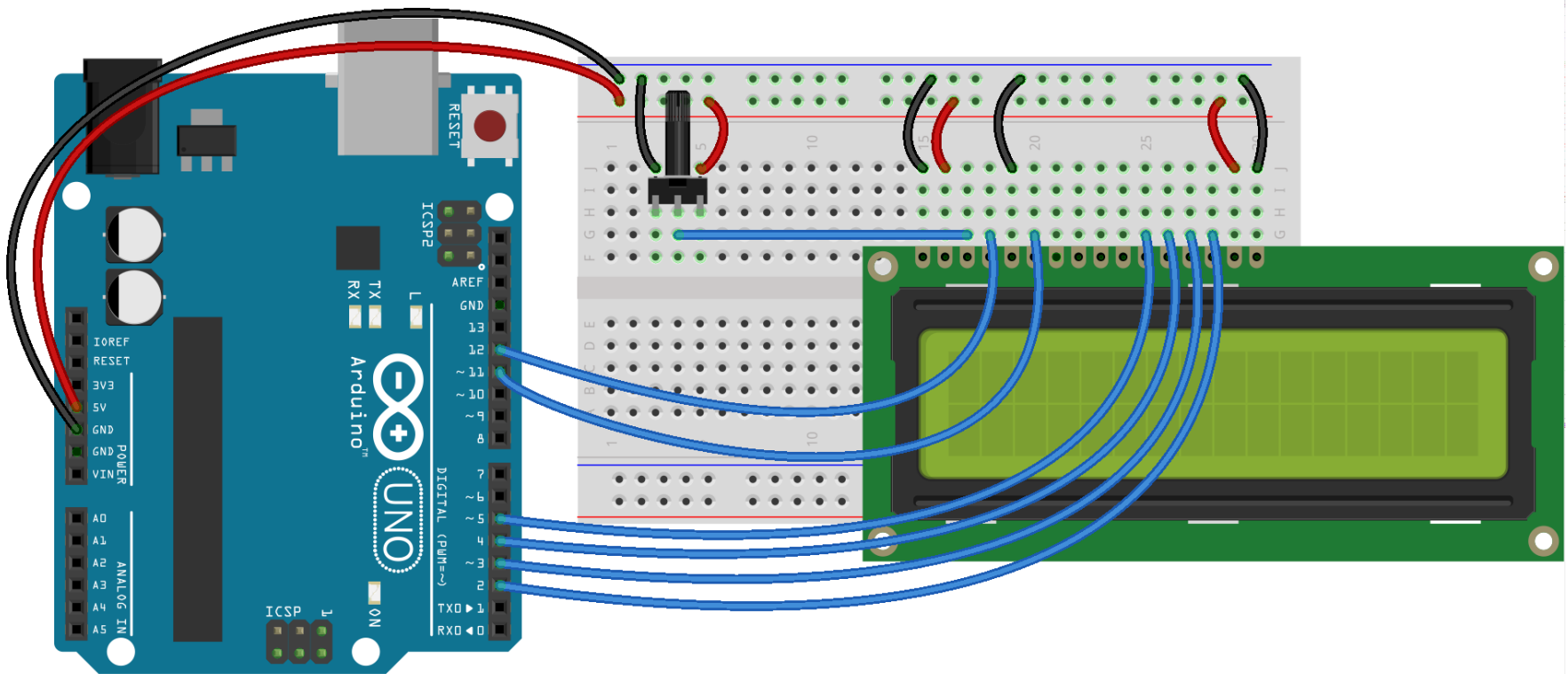
Display alfanumerico, in questo caso a due righe e 16 colonne



Display LCD grafico



Circuito LCD



fritzing

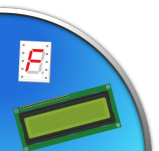
Listato display LCD

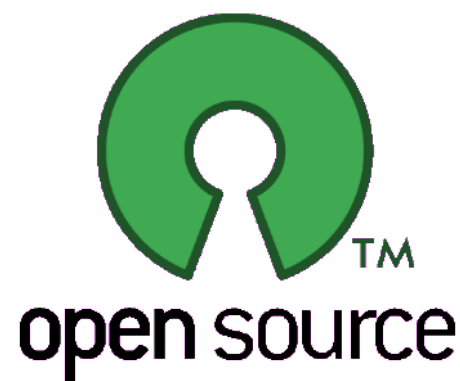
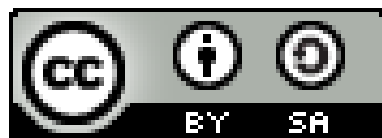
```
// inserisce la libreria
#include <LiquidCrystal.h>

// crea un oggetto lcd inizializzandolo con i pin relativi
LiquidCrystal lcd(12, 11, 5, 4, 3, 2);

void setup() {
    // imposta righe e colonne del display
    lcd.begin(16, 2);
    // stampa un messaggio
    lcd.print("hello, world!");
}

void loop() {
    // sposta il cursore alla linea 1, colonna 0
    lcd.setCursor(0, 1);
    // stampa il numero di secondi dall'accensione
    lcd.print(millis()/1000);
}
```





Presentazione realizzata con software open source
(LibreOffice Impress, Gimp, Arduino, Fritzing)

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e realizzata da *Stefano Panichi* e *Giulio Fieramosca*