



## PCF8574 knowledge (Sprint 3)

MINF UDL 20-21

### Ubiquitous and embedded systems

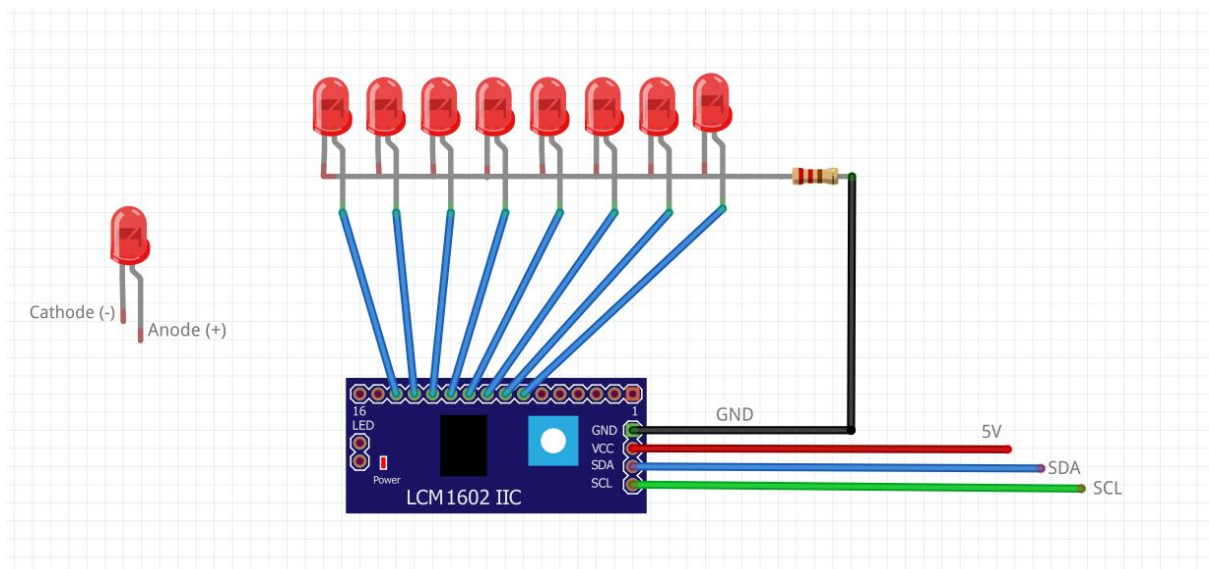
#### Team 1

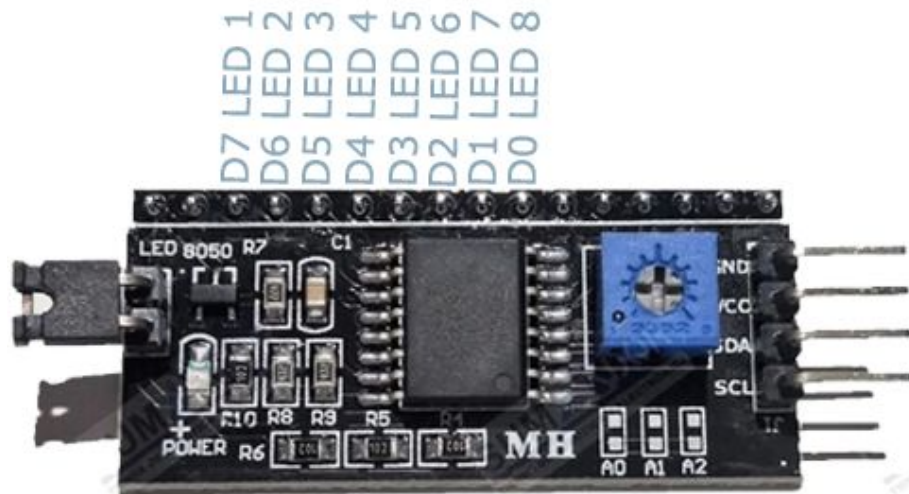
The PCF8574 is a “port extender” that works using i2c connection. Originally it was meant to easily attach to a LCD Screen, but in our case, we are gonna use it to control a LED BAR (8 Leds).

In the i2c environment, the Raspberry will be the master, the Arduino one slave and the PCF another slave.

i2C Address: 0x27

#### 1. Wiring connection





2. Code (code not final)
  - a. In the code of the raspberry (chibios), we need to include a command to light up the LEDs on the PCF:
 

```
i2cMasterTransmit(&I2C0, pcf_address, 0b10000000, sizeof(0b10000000), &aux, 0);
```
  - b. The 0b00000000 indicates each led, the pcf\_address point to the i2c address of the PCF (it's 0x27). So for example if we want to light up the 3 first leds, we will send something like 0b11110000.
  - c. We have still to adapt the code to light up the LEDS based on the distance received.
3. Considerations:
- 4.