

global open time

- use kicad 8, 9 still has some problems
- have 2 leds: power & debugging
debugging: run a blink program and make sure your mcu is still alive.
how to use the pin with the led? just solder pin header before or after the led.
- 2 layers
put pin through the board -> bam, 2 layers
you can connect then the two pins on the backside with a cable. there is no shame in that btw.
- suggestion: use labels. makes your design a bit easier.
- use disconnected mark in kicad if pins are not connected
- use power flags if you get errors regarding power
 - you need to tell kicad where power is coming into the board
 - hit p on keyboard
- pull-up & pull-down: check adrians doc
 - if you do not connect the open switch directly to pin, there will be noise due to --- internal processes in the chip
 - add pulldown resistor with low resistance so that noise rather goes to ground.
 - how big pulldown resistors to be? (ricardo marques)
 - for buttons you can use like 5k,
 - LEDs between 500 and 1k
 - i2c depends on a few variables but between 900 and 5k.
 - for 3.3v logic don't go over 2.5k
- getting started with electronics pgase 6 to 41. for this weeks assignment
- make beautiful pcb, not a square. it is the design week
 - check ccc talk
- make power lines of fatter thickness on a pcb
 - you see it better
 - signal lines you want to be thin
 - thick power lines can handle more current
- some more about pullup/pulldown by ricardo marques
 - if you dont use pulldown pullup, there a tristate. its not defined what voltage is on the pin. internals of mC.
 - this is explained further by neil in input devices
- only use bat gnd and bat vin if usb is not used. otherwise they will conflict.
(source: rico)