8051 simulation

Multisim

- Download from the teacher's web page
  - ☐ version 11.0 (install and ask him for the activation code)
  - ☐ projects files in *projects_ms11.zip* (and unzip)
- Alternatively
  - ☐ download Multisim
    - *https://www.ni.com/it-it/support/downloads/software-products/download.multisim.html#452133*
    - Versione 14.0
    - Edizione… Didattica
    - download
  - ☐ unzip and launch
  - ☐ install for evaluation
    - deselect everything except "NI Circuit Design Suite 14.x Education"
    - disk cost: ~ 1.5 GB
  - ☐ disadvantage: license expires soon

First example

- Launch Multisim
- Open (from *projects_ms11.zip*) *ConveyorBelt.ms11*
- *MCU… MCU805x… Build*
- *Simulate… run*
- *Simulate… stop*
- *MCU… MCU805x… MCU code manager*
- Inspect/modify the code
- *Build*
- *Simulate… run*

- *htc.h* and *805x.h* are in
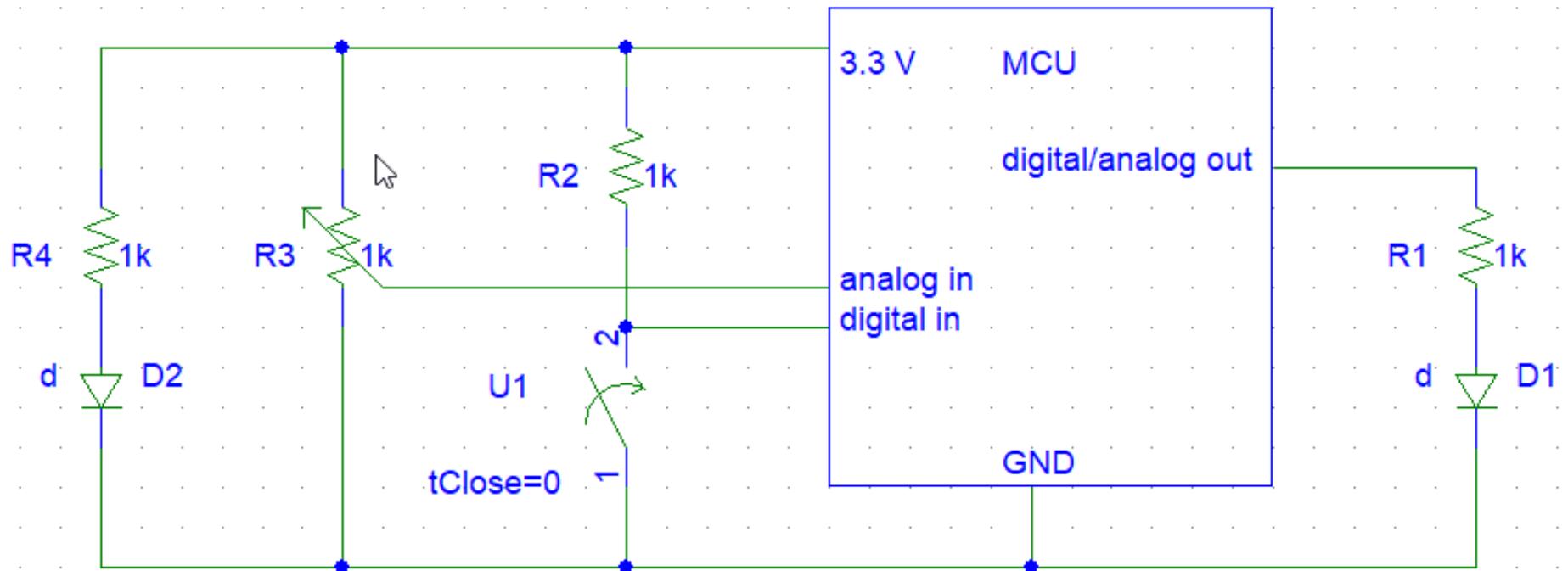 *C:\Program Files (x86)\HI-TECH Software\HC51\9.60\include*

Other programs

Again from *projects_ms11.zip*
- *digital_inout*
- *analog_inout_test*
- *analog_inout*
- *analog_inout_sin*

From the Multisim sample projects folder
- *SerialTerminal*

Main electrical connections

Possible homework

- Improved *Conveyor_belt*
- *Analog_inout* with "real" ADCs and DACs (see *Place Mixed… ADC_DAC*)
  - e.g AD9218, 16 bit ADC
  - e.g. DAC8541, 16 bit DAC
- *SerialTerminal* in C