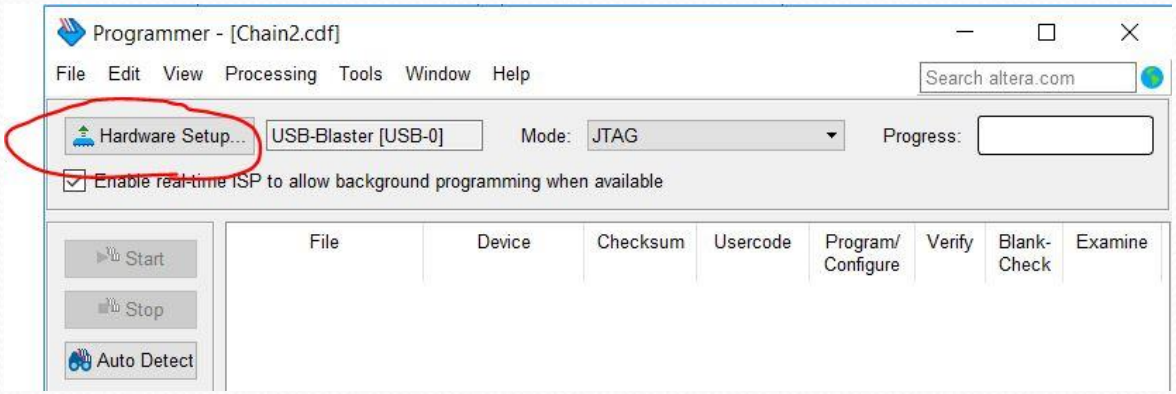
Exercise 10 (Mapping ESC_Test to DE0-Nano)

- Create an Exercise10 directory under your ECE551 area of your I: drive
- Copy Verilog content from your Exercise09 (**rst_synch.sv, PB_release.sv, cnt4.sv, ESC_test.sv, and ESC_interface.sv**) to your Exercise10 directory
- Download **ESC_test.qpf** (Quartus Project File) and **ESC_test.qsf** (Quartus Settings File) from the website and store in your Exercise10 directory
- Open up Quartus
  - Do a: **File → Open Project** and open up the **ESC_test.qpf**
  - Compile the design and fix any errors
  - Plug in your DE0-Nano Board.
  - Do a: **Tools → Programmer** and check that the USB Blaster shows up (see below) (you may have to wait a while on these CAE machines for it to enumerate)



Might have to go under "Hardware Setup" to get it to choose USB-Blaster

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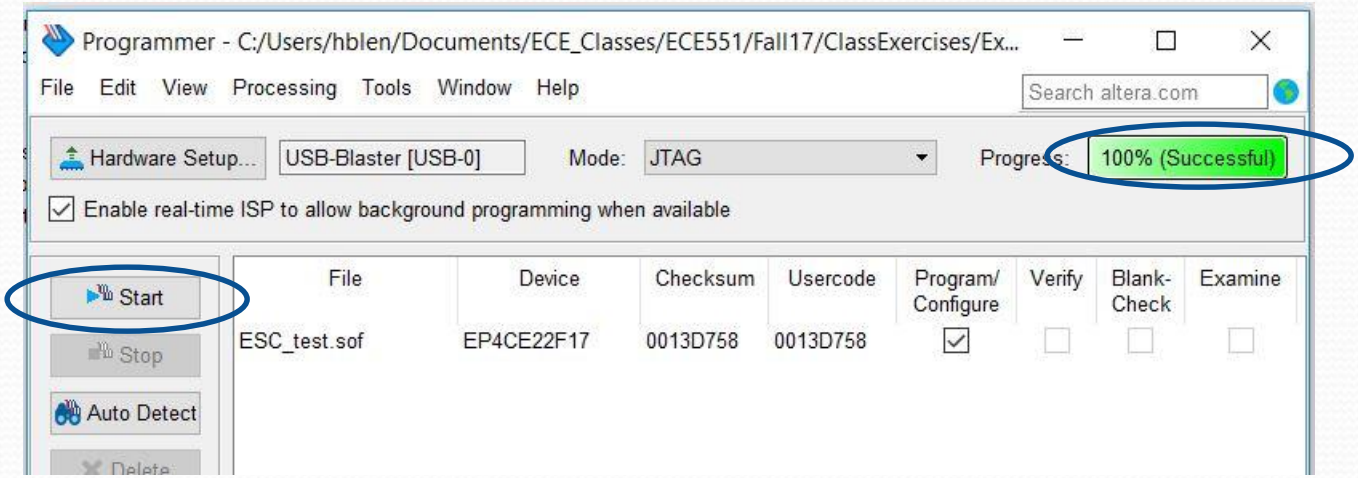
- Program the DE0-Nano



- Hit “Start” and look for 100% Success

- See next page for mapping of functions to DE0-Nano

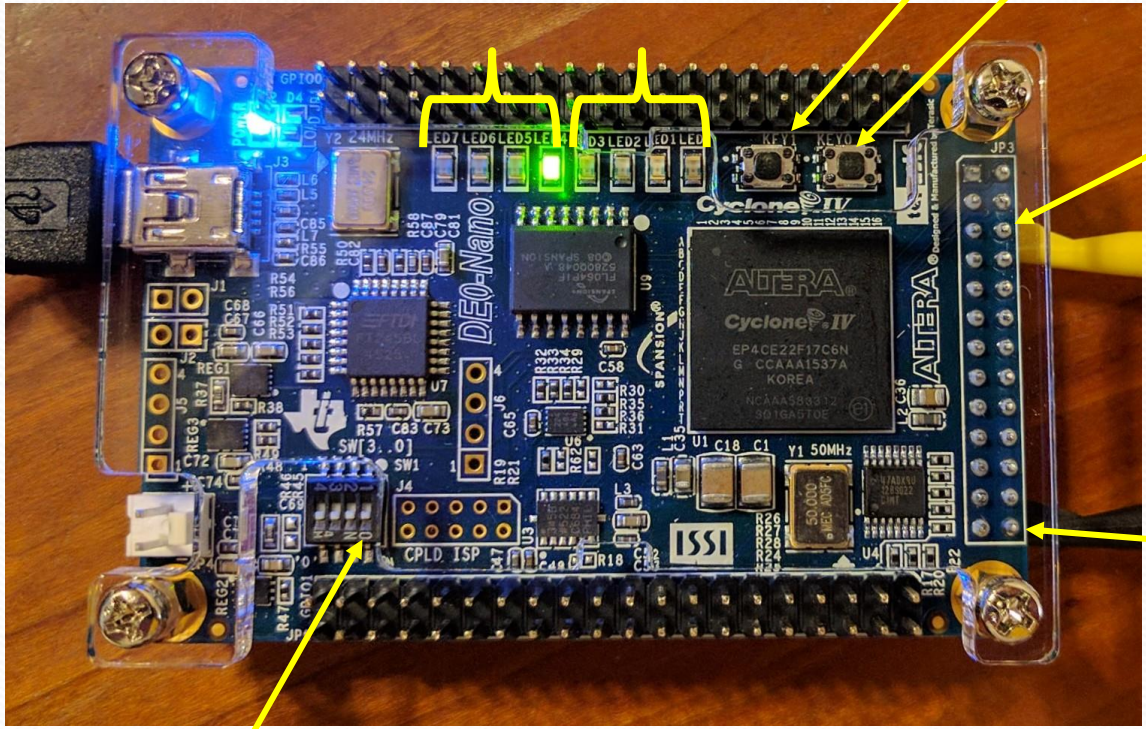
Exercise 10 (Mapping ESC_Test to DE0-Nano)

Upper nibble of LEDs will be your 4-bit OFF counter

Lower nibble of LEDs will be your 4-bit SPD counter

"inc" push button

"RST_n" push button



3rd pin down on right side is your PWM signal

Bottom pin on right side is GND

Dip switch 1 is "sel_speed"

Test your design. Perhaps fire up the scope and check out behavior of PWM signal. Call us over do demo with a quadcopter motor and get checked off.