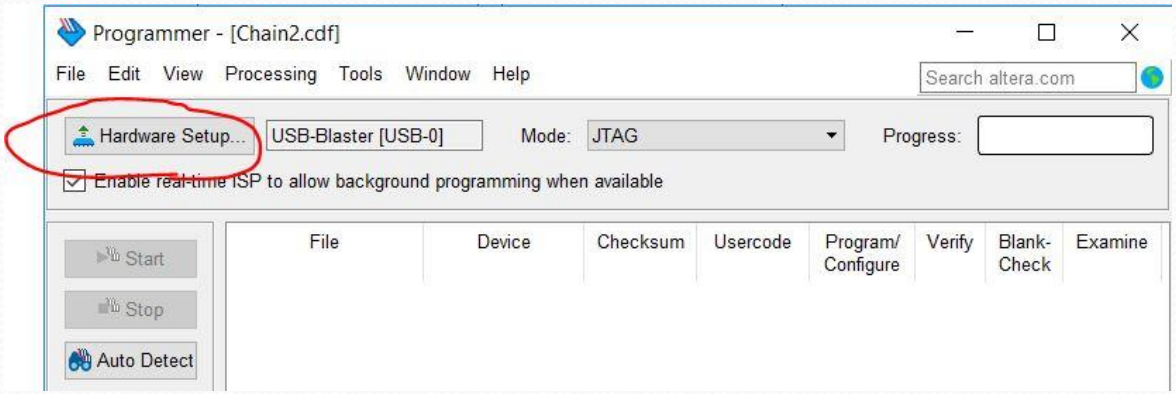
Exercise 10 (Mapping PWM11_test to DE0-Nano)

- Create an Exercise10 directory under your ECE551 area of your I: drive
- Copy Verilog content from your Exercise09 (**rst_synch.sv, PB_release.sv, up_dwn_cnt4.sv, PWM11_test.sv, and PWM11.sv**) to your Exercise10 directory
- Download **PWM11_test.qpf** (Quartus Project File) and **PWM11_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 **PWM11_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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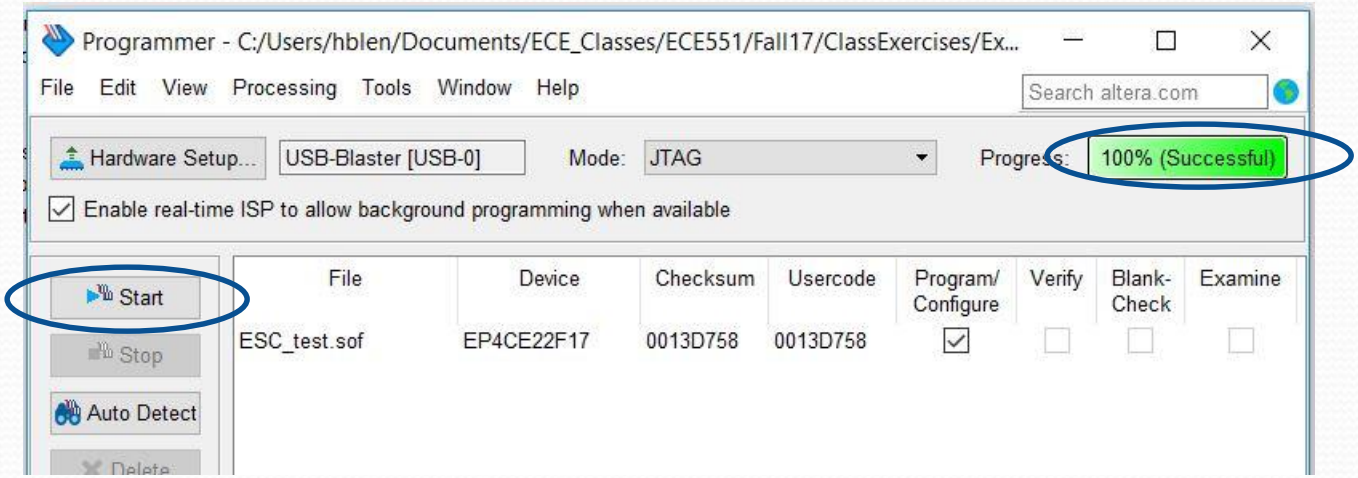
- Program the DE0-Nano



- Hit “Start” and look for 100% Success

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

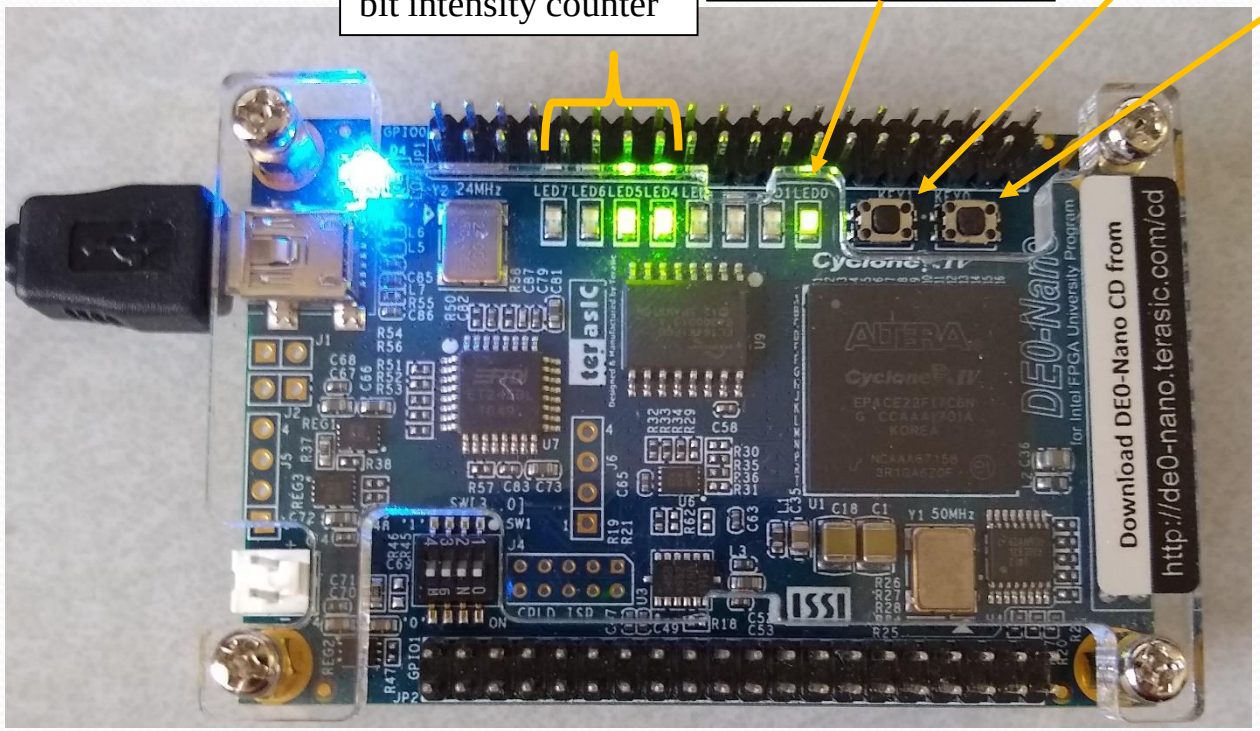
Exercise 10 (Mapping PWM11_Test to DE0-Nano)

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

Lowest bit of LEDs will vary in intensity with duty cycle of PWM

"inc" push button

"RST_n" push button



Test your design. Intensity of LED[0] should increase at first as counter increases. When count gets to 1111 then counter should reverse and start counting down. Call us over when you have it working and we will "check you off"