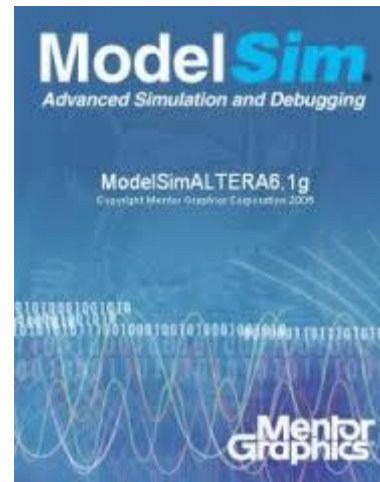


Module 7

# Altera Tools

# Altera Tools

- Altera's tool suite includes the following:
  - ModelSim
  - Quartus II
  - Nios II
- Download the following tool suite following the link in the references section



**Nios® II**



# ModelSim

- ModelSim is used to simulate VHDL design files using a test bench file to test against
- We will be using ModelSim to verify all of our VHDL designs
- ModelSim is a very powerful tool, this is where most of the debugging process will take place

# Quartus II

- Quartus II is used to take all of your VHDL design files and create a \*.sof file
- A \*.sof file is what is loaded into the FPGA to configure it
- If you are programming an Altera FPGA or CPLD you will have to use Quartus II

# Nios II

- The NIOS tool is used to write code that will run on a Nios II soft core processor
  - A soft core processor is a processor that gets implemented in VHDL
- The Nios II processor is a 32 bit processor based on a Harvard style architecture with 3 variations:
  - Fast
  - Economy
  - Standard

# Summary

- Altera's tools include:
  - ModelSim
    - Used to simulate your VHDL design
  - Quartus
    - Used to program a FPGA or CPLD
  - Nios II
    - Used to develop embedded softcore processor