

September 22, 2003

◆ Lab Access

- We're working on getting the right key for Room 205 to the main gate.
- Please avoid using Elm, the one with the separate desk in room 205; it's the master for ghosting.

◆ Second lab handout updated 9/19

◆ Change in Lab Procedure

Change in Lab Procedure

- ◆ From now on use “My Projects” under local “My Documents”
 - Gets backed up/restored to/from H: when you log out/in
 - Faster working from C: than H:
 - Be sure to back up your own work!
 - File sharing for real projects
 - ◆ Right-click a folder, select “Security” from Properties

About Cygwin

- ◆ We installed it so Handel-C can link to gcc/g++ code for simulations
- ◆ Bash shell uses Unix syntax (/) in a DOS world(\).
 - “/cygdrive/c” is a bit awkward ...
 - We’ll make it easier ...
 - We’ll install emacs ...
 - We won’t use command line operation any more.

Additional Documentation

◆ Celoxica Web Site

- Go to “Library” and look around
 - ◆ “Handel-C FAQ”
 - ◆ “The Technology Behind DK1”
 - ◆ Others ...

◆ New Tutorial Documents

- Handel-C and PSL Basics
- VGA Graphics Output
- Code Optimization

Handel-C Design Layers

◆ Application

- Handel-C Code
- Can use “interfaces” for direct I/O

◆ Platform Abstraction Layer (PAL)

- Uses macros to give common look to drivers

◆ Device Driver

- Code (channel I/O) to operate peripheral devices on a particular board
- Platform Support Layer (PSL) is a collection of device drivers for a board such as RC-200E

Handel-C Basics

◆ Timing Model

- One Hot Encoding for assignments
- Combinational logic for r.h.s.
- Delay / Parallel / Serial structures

◆ Channel Communication

◆ Signals

◆ Bit manipulation operators

- Take (\leftarrow)
- Drop ($\backslash\backslash$)
- Select ([m:n])
- Concatenate(@)

Channel Communication

- ◆ `chan unsigned 1 sync;`
 - `sync ! 1; // Write to channel`
 - `sync ? x; // Read from channel`
- ◆ The read and write statements will complete execution in the same clock cycle
- ◆ Multiple bits of information can be sent
 - `chan unsigned 2 sync_2`