ENGR-433
HW # 10 - due Friday

The goal of homework #10 is to help you make progress on lab 8.

Hand written work is just fine when done neatly. Electronically created material is just fine as well. PDF files are my first choice for submissions but jpg or doc/docx are ok too.

Do the following and submit to HW#10 D2L drop box.

1) Write a description of how your pong game will work. Be as complete as possible including details of scoring and the display of the score, range of score, how the "ball" will move, the range of speeds the ball will move at (actual time values), how to reset, etc. Try to think of every detail that potentially will be needed. By the time you complete a design you will have decided these things but if done before starting actual design work you can use this information to drive the design and make design decisions.

2) Using your pong description as a guide, think about the circuit blocks or subsystems needed to implement your game. For example, a clock generator to create one or more clock signals, counters or registers to keep track of score, display driver, etc. Be as specific and detailed as possible. Create a block diagram of your game. Think about the signals that go between circuit blocks. Give them names and show them on the block diagram.

Future steps
The next step (see homework #11) is to consider timing and state machine design.

With a good block diagram, timing information, and state diagrams in hand (these are the product of design) then implementation can begin. Implementation in our case is writing the VHDL description. **Design needs to occur before VHDL is written**.

Note that I will be looking at how you go about this project as well as ultimately its successful operation.