

ETGG4804 — Optimization Techniques
Lab 3 — Pong/Timing
35 Points
Spring 2016

DUE ON 2/15/2016

Part I

You will be creating a game that is similar to pong. The game should be written in ARM assembly for the Game Boy Advance.

1. Render a paddle to the screen which can be controlled by the player. The paddle should move up/down or left/right.
2. Have a ball bouncing around the screen. You can use a single pixel or rectangle for the ball.
3. If the ball hits the paddle or a wall, have it bounce off.
4. If the ball hits the wall behind the paddle, stop the game.

Part II

In part II, you will be profiling your pong code (calculating frames per second) running from cartridge ROM (0x08000000), external working RAM (EWRAM: 0x02000000) and internal working RAM (IWRAM: 0x03000000).

1. Time your pong code running from cartridge ROM (no memory transfers needed)
2. Time your pong code running from EWRAM.
3. Time your pong code running from IWRAM.
4. Present your results in a table.

