

# CS1372 Summer 2009 Homework 3: Breakout

This Assignment is due via T-Square Thursday, June 4 at 11:55pm

## Purpose

This assignment is to make sure you have an understanding of bit operations, program flow, and structures. It will also quiz your knowledge of classic arcade games. You may have heard this game referred to as “Brickbreaker”. That is dumb. It is called Breakout.

## Instructions

Write a clone of the game Breakout for the GBA. Your gameplay must include the following:

1. At least one paddle.
2. At least two balls. These extra balls may be present for the entire game, or added during play.
3. At least six bricks.
4. Winning conditions and losing conditions.

For program structure, you should include the following:

1. Structures for the bricks, balls, and paddle(s).
2. Auxiliary function for performing common tasks.
3. Clear segments in your code for performing different tasks.
4. More than one C file.
5. COMMENTS!
6. MORE COMMENTS!

Submit all C files, header files, and your makefile on T-Square.

As before, include the following in the top of your main file:

```
//////////////////////////////////////
// Name:                                     //
// Prism Account:                           //
// Collaboration:                           //
//    "I worked on the homework assignment alone, using only //
//    course materials."                     //
//    or                                     //
//    "I received outside aid on this assigned from the following //
//    person(s):                             //
//////////////////////////////////////
```

## Hints

Your game loop will have several distinct tasks. Consider using this flow:

1. Get user input.
2. Update paddle location(s).
3. Update ball location(s). Also, check for collisions with sides, top, paddle, or bricks. Change the direction the ball moves if necessary.
4. Clear the screen of what needs to be redrawn and any bricks that have been hit. (Consider: The bricks don't move. Do you need to clear and redraw them on every loop?)
5. Redraw paddle(s) and ball(s).