Ball to Paddle Hit Detection

AlienPong designs - pseudocode – Matt Filer

## Initial design – 9th November

Initial pseudocode for Pong hit detection. I will use two separate for loops to determine if the value of the ball’s X and Y matches that of the paddle. These will be handled separately, then checked before returning true to see if they are both matched.

**Pong – isTouchingPaddle**

* If ball X is equal to paddle X
  + hitX set to true
* For every Y value of paddle (from base to base + height)
  + For every Y value of ball (from base to base + height)
    - If ball current loop Y is equal to paddle current loop Y
      * hitY set to true
* If hitX and hitY both equal true
  + **Return true**
* Else
  + **Return false**

## Rework – 23rd November

Rethinking my previous pseudocode for the hit detection in Pong, I am going to use an extended if statement to check that the ball is not inside the paddle, rather than looping through each Y value of the paddle every frame to do the same thing. This should save on CPU load and help improve the framerate.

**Pong - isTouchingPaddle**

* If ball sprite X is greater than paddle sprite X
  + If ball sprite X is less than paddle sprite X plus paddle width
    - If ball sprite Y is greater than paddle sprite Y
      * If ball sprite Y is less than paddle sprite Y plus paddle height
        + **Return true**
* Else
  + **Return false**