Pong - Testing

* Video 1: Testing collison with sides of paddle. Testing button click mechanism. Testing scoreboards and game end functions.
* Video 2: Testing ability for user to win against computer.
* Tested font to ensure it was downloaded as default on both Mac OS X and Windows. Used universal “Twentieth Century MT Bold Italic” to deal with varying font libraries.
* Tested frame rate on school computers and personal laptop to ensure maximum usability on any platform. Chose 100 fps to create fluid motion while staying easy for processor.
* Tested game difficulty to make even easy mode decently challenging to improve user experience. (Difficulty is addictive eg. Flappy Bird.)
* Ensured screen size fit with school computer’s display resolution.
* Ensured minimizing tab does not crash program.
* Checked that pressing escape exits program. Included this in instructions.
* Made sure no route or button clicked lead to a page that was not coded.
* All buttons were tested to lead to the correct pages.
* At any point before the game starts, buttons were tested to ensure the player can return to the home screen.
* If the player chooses an invalid number for computer difficulty (eg. 4) the computer has a specified default difficulty of Easy.
* Ensured paddles can not leave the bounds of the screen in single or two player mode.
* Checked if ball makes contact with outer tenths of paddle, speed always increases and angle changes.
* Ball tested at low speeds colliding with sides of moving paddles to ensure ball can not get caught within paddle and to ensure no multiple hits.
* Ball tested to avoid getting caught in corners.
* Checked to see paddle positions were reset to default after each point scored.
* Pause was checked to be able to be triggered at any time in-game.
* Resume key press checked to result in a resume at exact moment of initial pause.
* Pause function checked to always allow game exit.
* Tested effects of multiple key presses of all keyboard keys to make sure that the mapped keys were the only ones registering. Made sure computer did not crash due to increased user input.
* Tested the key presses with caps-lock on, paddle did not move. Included instructions to turn off caps-lock in Instructions page for increased ease of use.
* Tested key presses of Player 2’s up and down keys while computer opponent was running to ensure that the shared variables between Player 2 and the computer did not affect one another.
* Checked quick alternating presses of up and down keys to ensure up and down booleans were functioning correctly and that one boolean did not trigger the other. Made sure keyReleased functioned correctly.
* Tried pressing up and down both at same time. Paddle stayed put as expected.
* Tried clicking around outsides of button to make sure boundaries matched.
* Clicked elsewhere all over the screen to make sure only clicks registered inside a button.
* Checked scoreboards to make sure all player and computer scores were updating.
* All scores were tested to end at 11 with victory. Upon game win, both options to restart and exit were tested.
* Ball starting speeds checked to allow sufficient time for players to reach ball.
* Tested various inputs from mouse and keyboard to ensure no crashes.