# Intro to Programming
## Scratch #15a – Basketball Part I

Objective:  Turn the game we started in class into a 2 player game.

1. Login to the Scratch website. You should already have a project called *scratch_15_example* that we completed in class.

    a. Open the *scratch_15_example* project.

    b. Do *File->Save as a copy*. The name of the project will change *to scratch_15_example copy*.

    c. Rename the project to *first_last_scratch_15*

    d. Do *File->Save now*

2. Add a second player:

    a. Add another Cat to the project. Rename it to *Player 2*. Modify *Player 2* so that it is a different color than Orange. Make sure to modify both costumes.

    b. The *Player 2* sprite will need *2* variables*: y velocity **for this sprite only**, and *Player 2 Score **for all sprites***.

    c. The *Player 2 Score* variable needs to be set to 0 when the green flag is clicked.

    d. The scripts for *Player 2* are the same as the scripts for *Player 1* except:

        i. *Player 2* should start at x:165, y: -130

        ii. It should point in direction -90

        iii. It should use the left arrow and right arrow keys to move left and right instead of the a and d keys.

        iv. It should use the *up arrow* key to jump instead of the w key.

        v. It should use the *space* key to shoot instead of the v key.

3. The 2 players will share the *Hoop/Hitbox* and *Basketball*. This means that the *Basketball* can't go to either player unless neither player is shooting. Also, the *Basketball* should move right when *Player 1* is shooting, but left when *Player 2* is shooting. Here are some ideas on how to make that happen:

    a. Create a variable for the *Basketball* sprite only named *who has ball*. Make sure this is set to 0 when the green flag is clicked.

    b. Create another variable for the *Basketball* sprite only named *x velocity*.

    c. Now, find the script that executes when *Player 1* shoots. Instead of actually shooting in this script, check to see if *who has ball* = 0. If it does, set *who has ball* to 1, go to *Player 1*, set *x-velocity* to 8 and broadcast *shoot*.

    d. Create another script for when the space key is pressed (which is how *Player 2* shoots.) This should look very similar to the script for *Player 1*: check to see if *who has ball* = 0. If it does, set *who has ball* to 2, go to *Player 2*, set *x-velocity* to -8 and broadcast *shoot*.

    e. Create a *When I receive shoot* script that does the shooting. It should contain most of the code we did in class. It will need to check to see which player has the ball in order to figure out which score to increment. It should change x by *x velocity*. At the end of the script, it should set *who has ball* back to 0.

4. Always do *File->Save now* before you log out of the Scratch website.

5. Now do *File->Save to your computer*.

6. If you have not been assigned Scratch #15b, turn in your *first_last_scratch_15.sb3* file to *missblomeyer.com* in the usual way.