Moving the LED with Microbits

Overview: In this project, you and a partner will code a program that can make an LED move left, right, and up on the microbit screen. By pressing combinations of the ‘a’ and ‘b’ buttons, the LED should move around on the screen. This will act as a precursor lesson to more complicated games.

Instructions:

1. Use makecode.microbit.org to create a program that can use different inputs to move an LED sprite around the screen.
2. BEFORE YOU BEGIN CODING:
    a. Find the following blocks of code, right click on them, and select the “help” option. Then read the documentation for that block so that you understand how it works! You will have to search through the block options on the left side of the screen to find each of these. Write down a brief description of each block below.
        i. “Set ‘variable’ to.. ” block (to see this option you may need to create a variable first)

        ii. “Create sprite at x:__ y:__” block

        iii. “Sprite change x/y by ___” block

        iv. “On button ‘a+b’ pressed” block

        v. “On shake” block

3. Your program should do the following:
    a. Create a variable to store the information for a sprite.
    b. Create a sprite at x=2 and y=5 named ‘player’
    c. Move the sprite right when the ‘b’ button is pressed, left when the ‘a’ button is pressed, up when ‘a+b’ are pressed, and down when the microbit is shaken.
    d. EXTENSION ACTIVITY: Look through the other blocks of code in the ‘game’ tab on the left side of the screen. Experiment with some of these blocks and see if you can make your game more complicated.
4. Before you start coding on the computer, write out what you and your partners plan is to accomplish the task. You can draw a picture, write in sentences, write in pseudocode,... whatever works best for your group, as long as you write something down! Write your plan below.

5. Now go code and test it!