Challenge 6: Sensor Interaction

On your own, or in a small group, write the following two PicoBlocks programs, in which switches 1 and 2 independently control motors a and b (respectively). In both programs, the switches can be pressed in any order and any number of switches (zero, one, two) may be pressed at once. Test your programs to make sure they work, and include them in your design blog.

1. ab-on-off: Motor a is on when switch 1 is pressed and is off otherwise; motor b is on when switch 2 is pressed and is off otherwise.

2. ab-reverse: Pressing switch 1 reverses motor a on and off and pressing switch 2 reverses motor b.

Note: ab-on-off is relatively easy, but ab-reverse is very hard if you don’t use the second wand. However, if you’re up for the extra challenge, there is a way to implement ab-reverse in a single stack. (Hint: you will need to use the “variables” feature found in the My Blocks category.)