

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.)