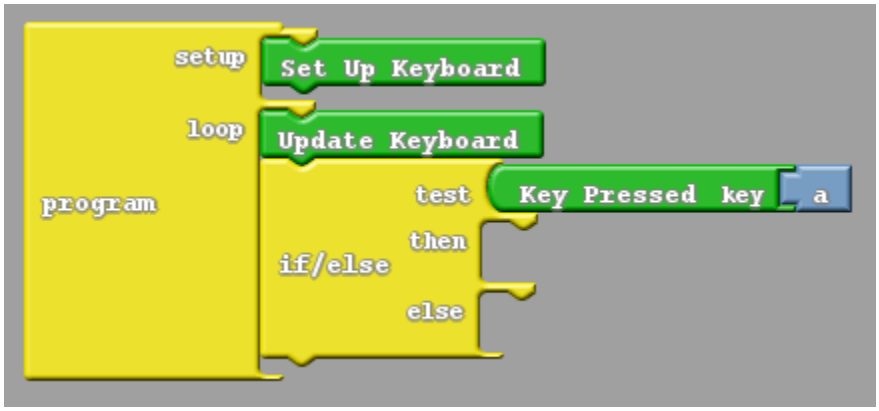
Using the Keyboard

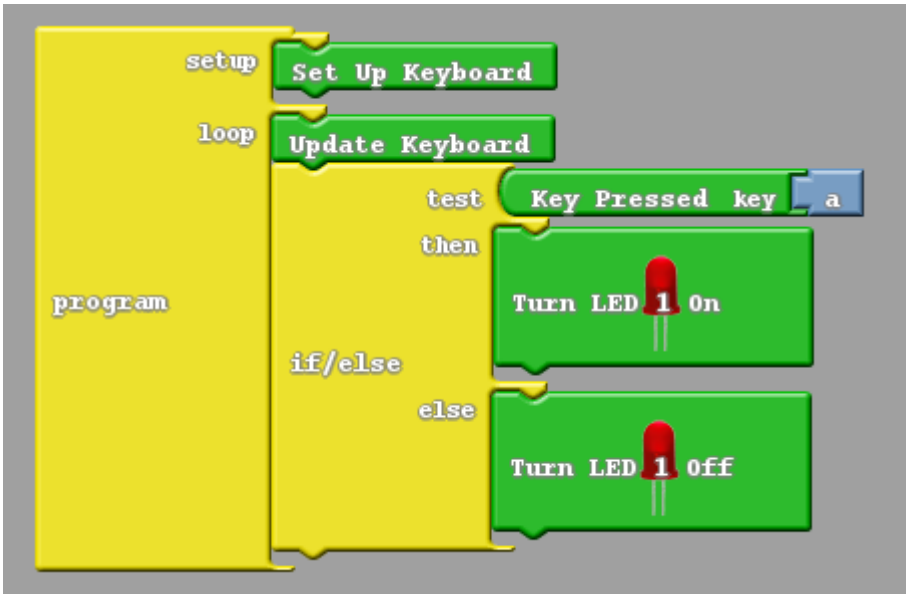
1. In this tutorial, we will learn to control what our programs do on the Arduino using input from a keyboard. As in the other tutorials, you need to start by placing your first block. Unlike the other tutorials, though, where you used a **loop** block which repeated its code forever, this tutorial will use a **program** block, also found in the **Control** drawer. This block works similarly to **loop**, but its setup code will run once before the loop begins. Inside of the setup field, place a **Set Up Keyboard** block, found in the **ECS** block drawer. This block must be placed at the beginning of the setup field of any program which uses the keyboard.

2. Place an **Update Keyboard** block at the beginning of the **program** block's loop field. This block updates the communication between the keyboard and the Arduino and must be used whenever a fresh value should be read.

3. Now that we have the two setup blocks in place, we are ready to start reading from the keyboard. Place an **if/else** block beneath the **Update Keyboard** block so we can do one thing if the key we are looking for is pressed and another if it is not. Also place a **Key Pressed** block in the test field of the **if/else**, allowing us to test whether the 'a' key on the keyboard is being pressed.



4. As we have done in other tutorials, place an **LED 1 On** block in the then field of the **if/else** block and an **LED 1 Off** block in the else field. This will turn the first LED on while the 'a' key is pressed and turn it off the rest of the time. Despite providing many options for controlling your programs, using the keyboard is that easy. You're ready to upload your program to the Arduino and try it out.



5. When your program runs, a window labeled “ECS Keyboard” will pop up on your computer screen. Keys typed into this window will be sent to the Arduino when the **Update Keyboard** block is used. If you have time, try testing for other keys or making other outputs result from the keyboard input.