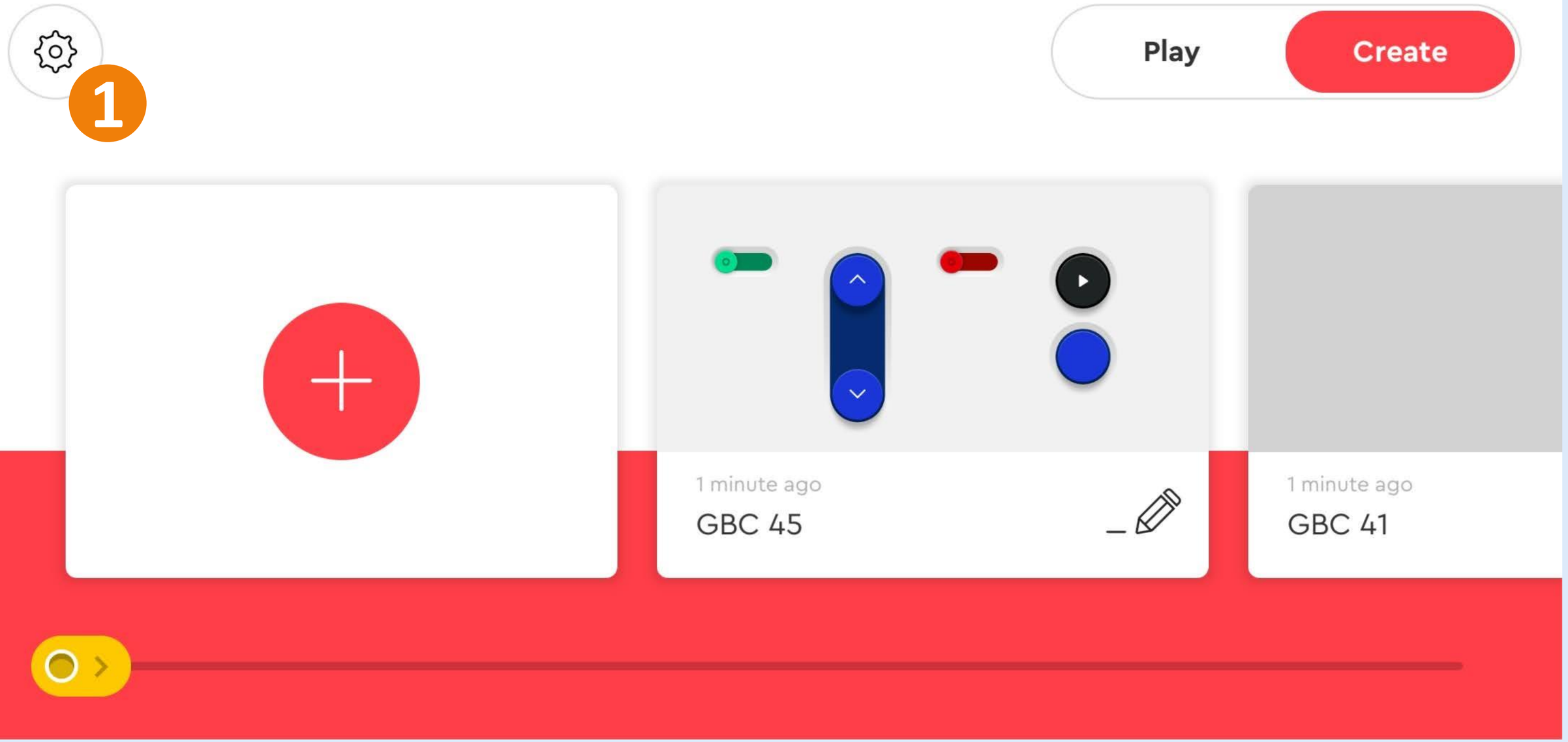
Software - LEGO Powered Up App
GBC 51 Gravel Works – 42131 Alternate Build

PV-PRODUCTIONS
Where technology is the drive

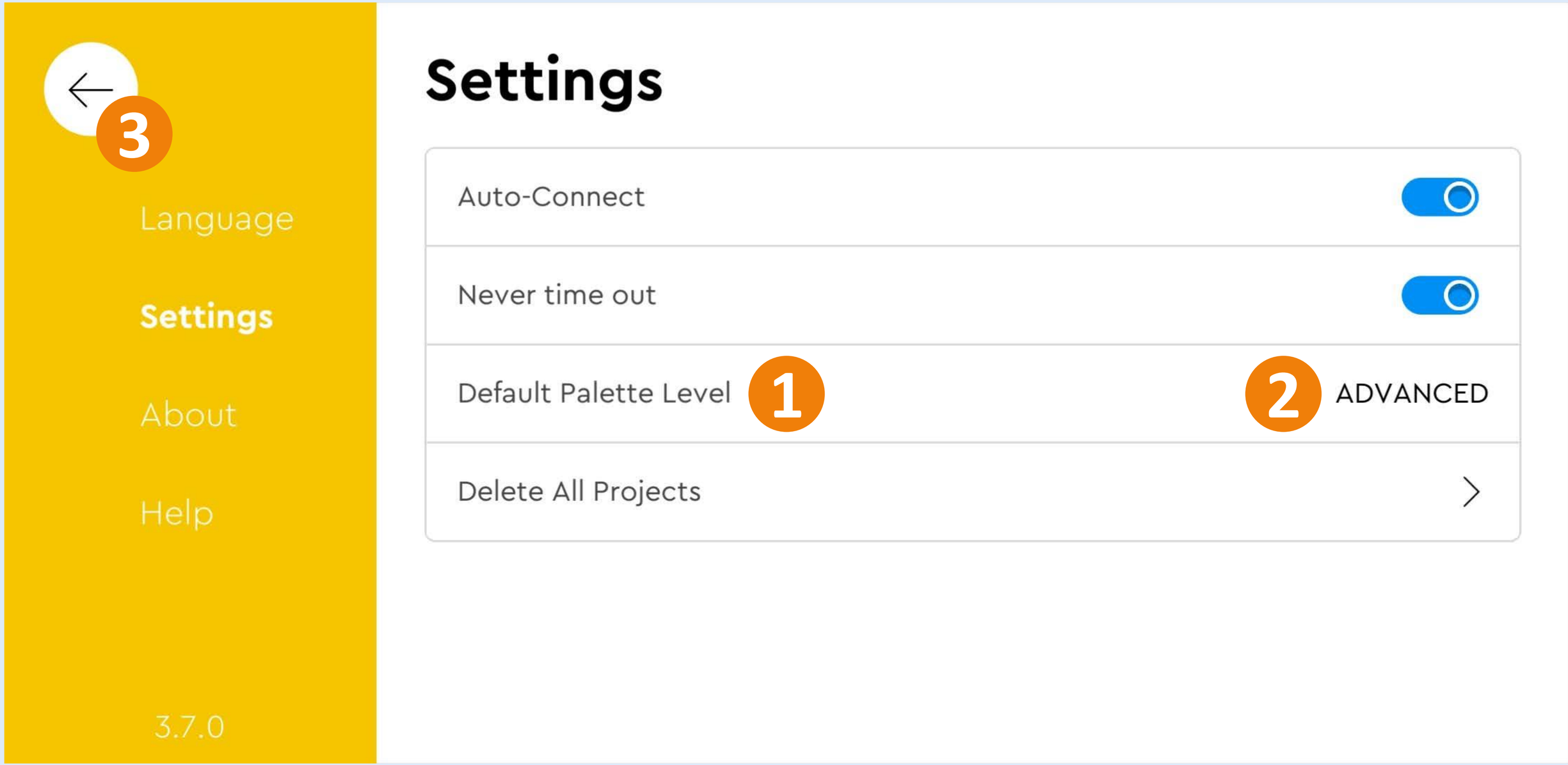
Version: v2

Open the LEGO Powered Up app on your smart device.
Complete the steps in the correct order by following the numbers.

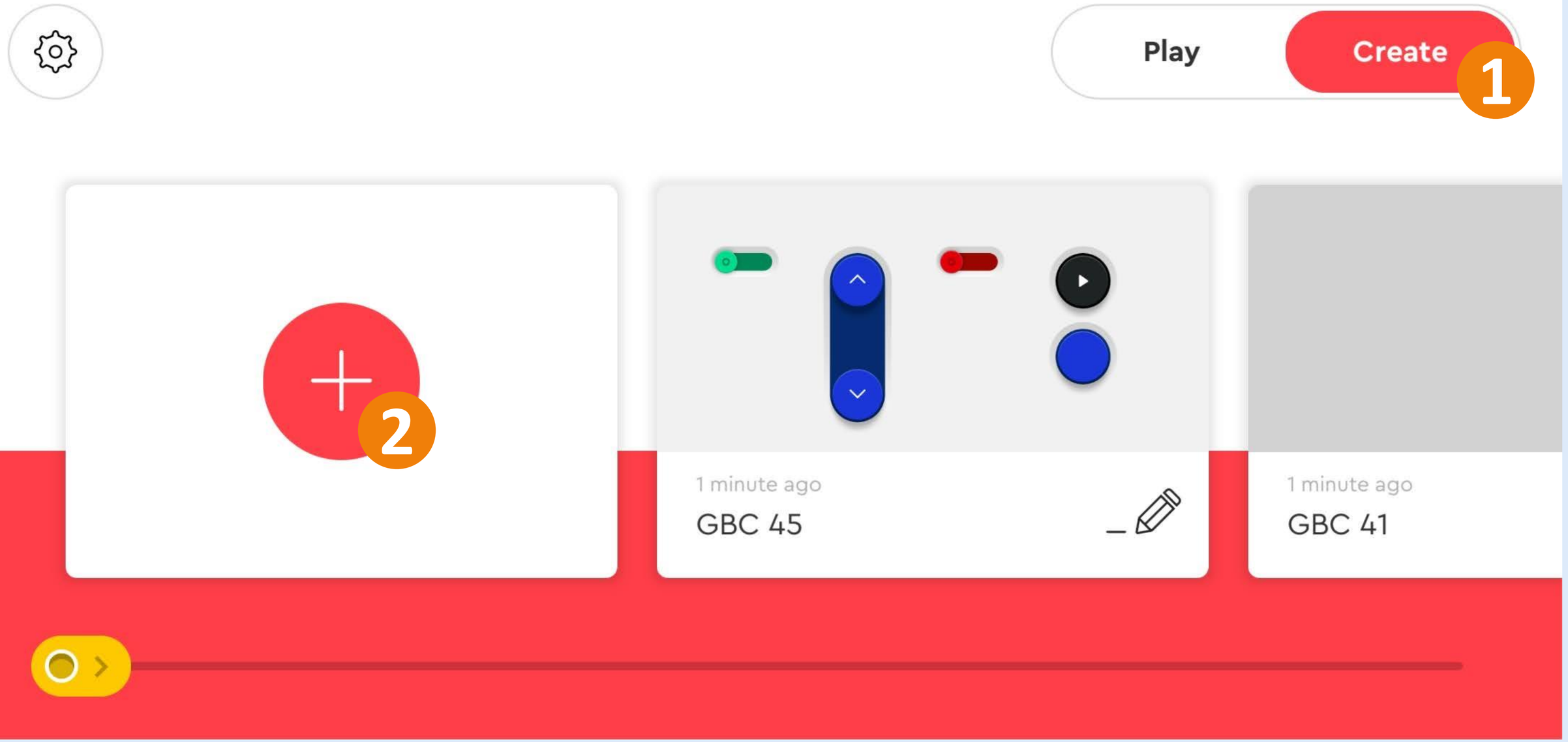
First click on the gear icon to go to settings (1).



Click on the “Default Palette Level” button (1) and select on “Advanced” (2).
Once selected, go back via arrow icon (3).



Click on the “Create” button (1) and tap on the + sign (2).



Enter a name for your project.

01 — 03

NAME YOUR PROJECT

1

2

Select the controller type.

02 — 03

CHOOSE PROJECT TYPE

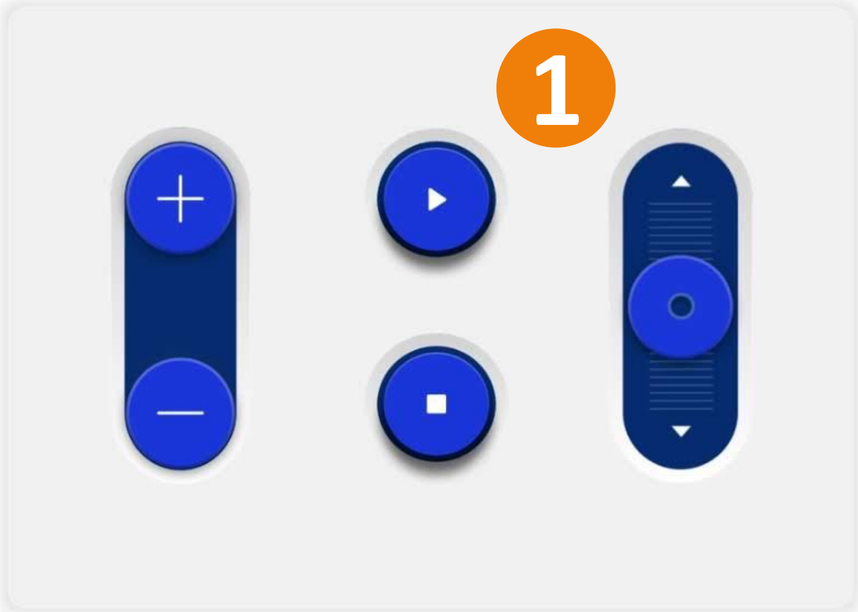
Controller

Coding

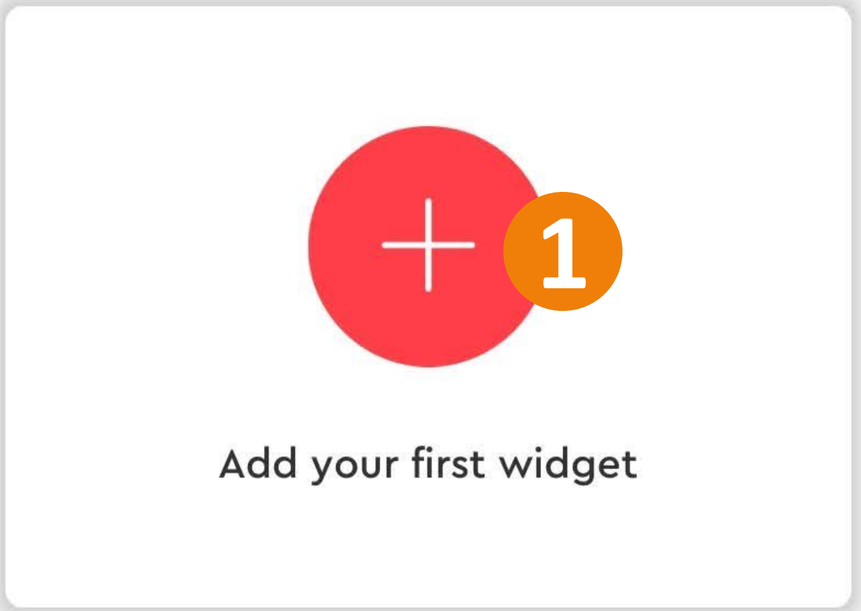
Select the correct controller interface.

03 — 03

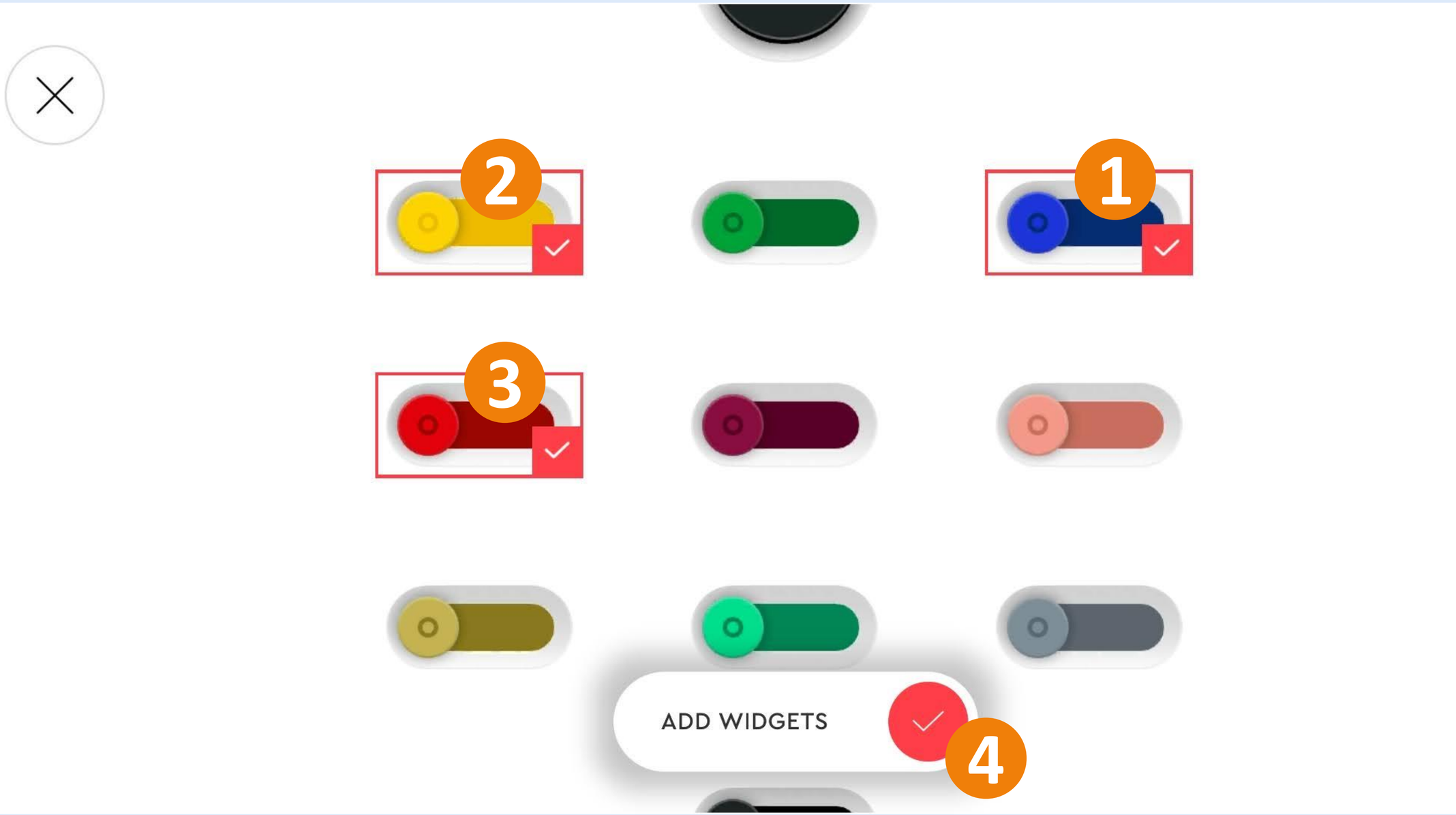
CHOOSE CONTROLLER



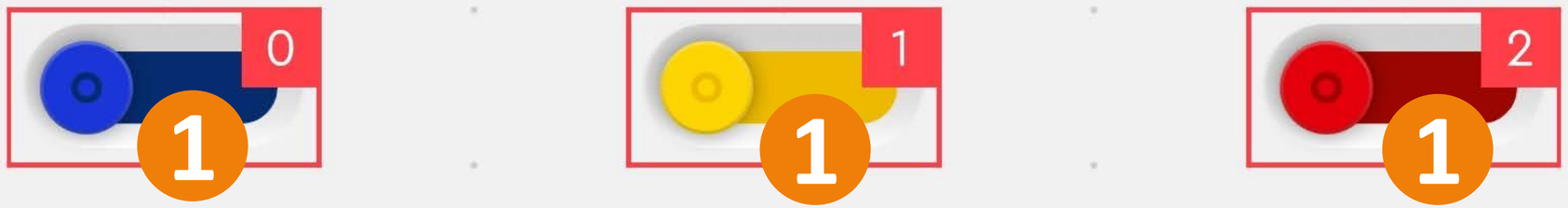
Click on the + sign to add your first widgets/buttons.



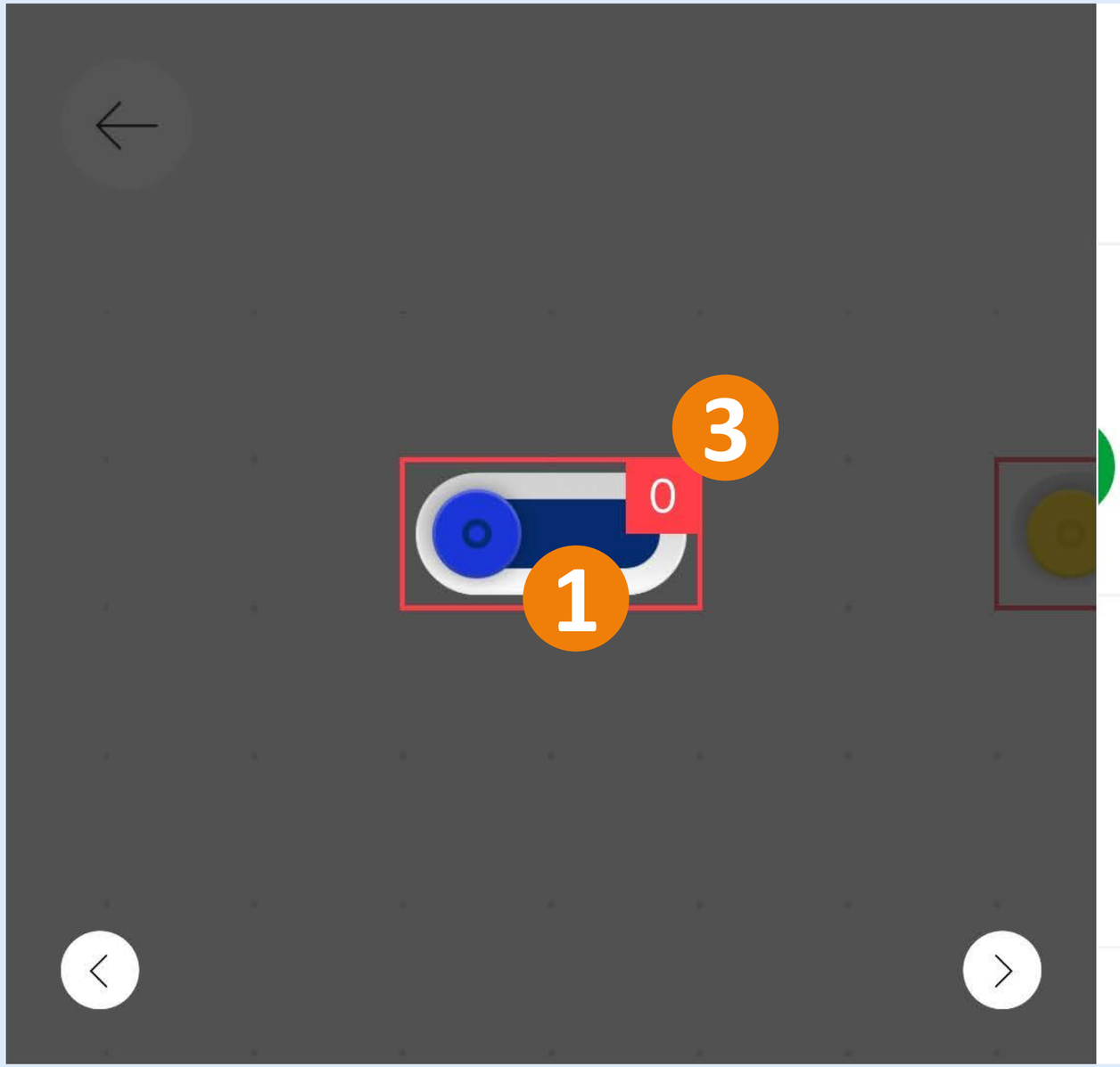
Add the following colored buttons (1) (2) (3). You can select more buttons simultaneously. Scroll up and down to find all the buttons. Click “Add Widgets” to proceed (4).

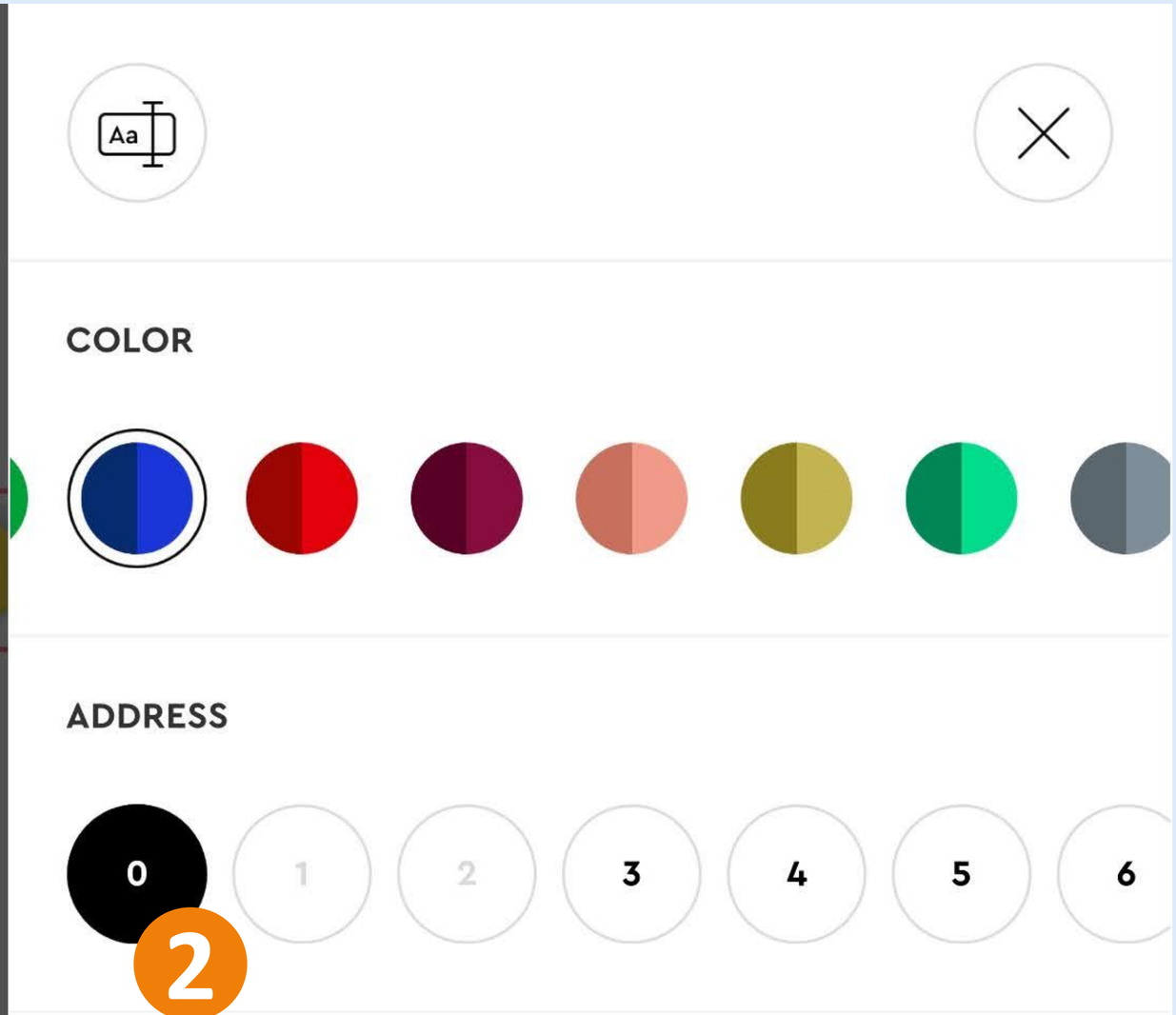


Rearrange the 3 buttons as shown below (1). You can click the + sign (2) and add all the other buttons in the correct color. Scroll up and down to find all the buttons. You can select more buttons simultaneously in the add widget screen.
Don’t pay attention yet to the icons inside the buttons. We will add these later.

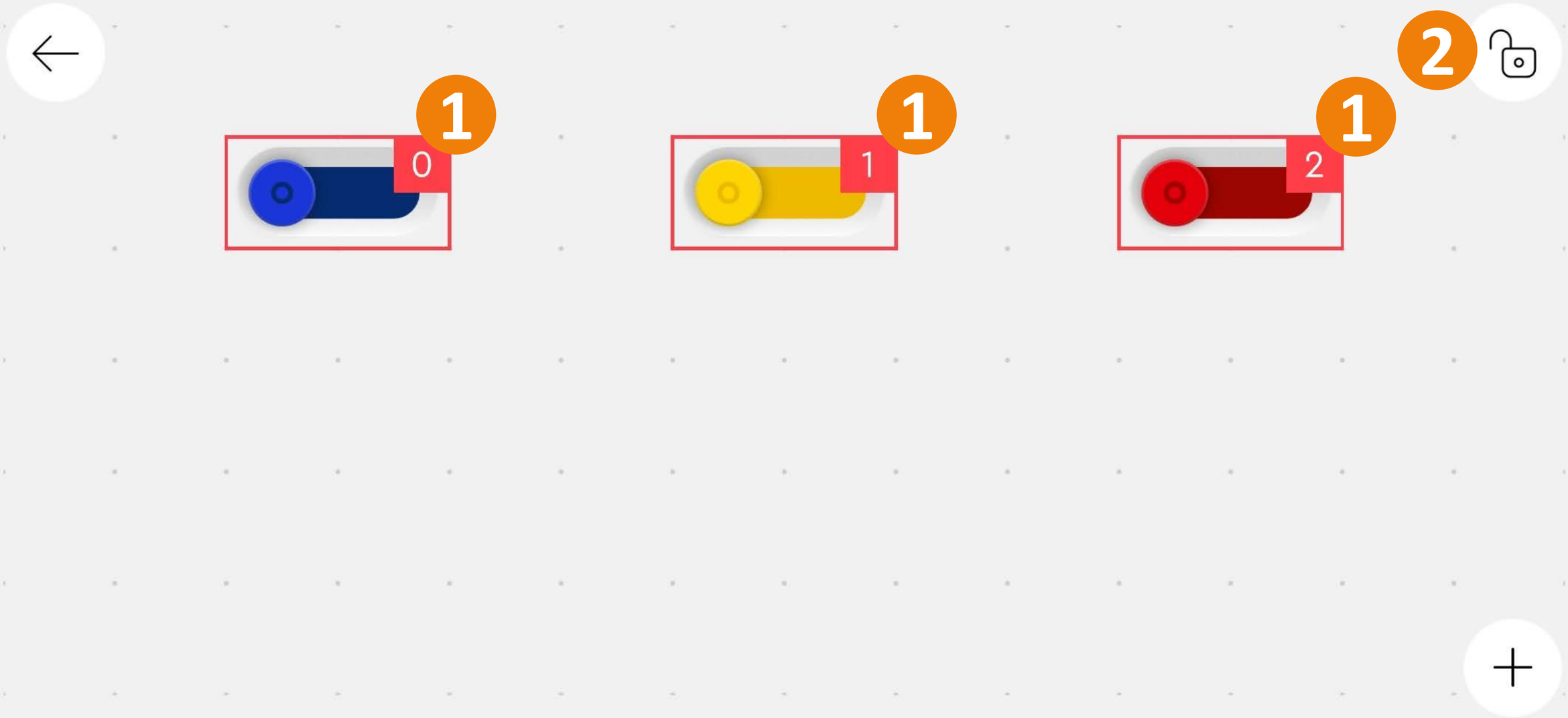


Click on each button (1) and change the address (2) as shown below in the red square (3).
See previous step for all the correct addresses.



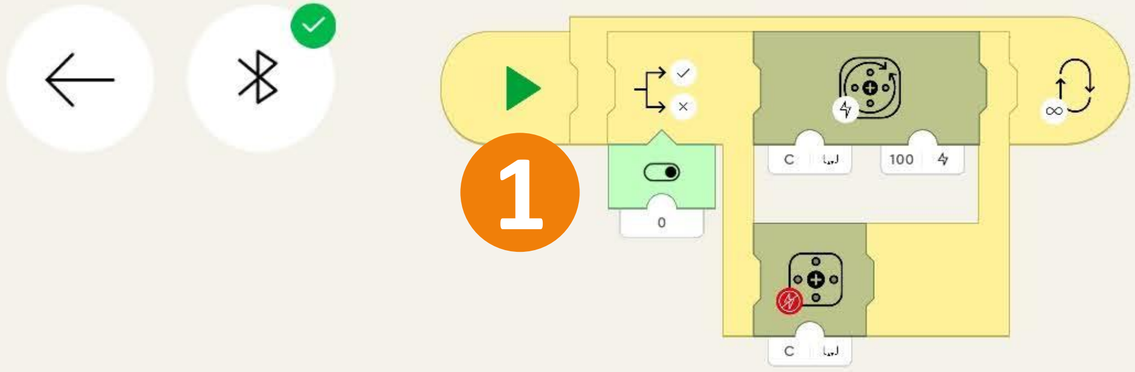


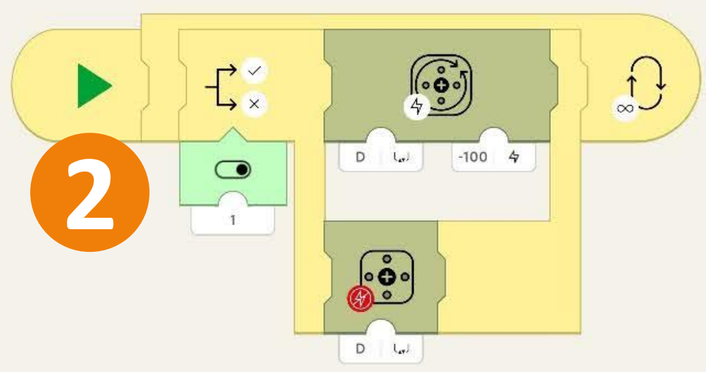
Double check all the addresses in the red squares (1)!
Click on the lock icon to confirm and lock the buttons (2).

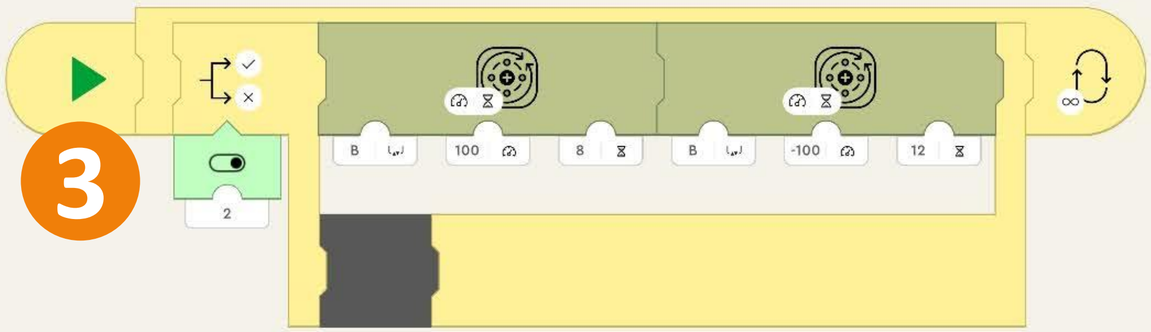


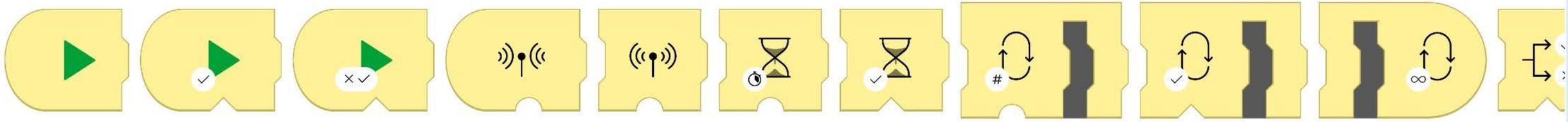
You should now see this interface. Click on the code icon to proceed (1).

This is the code interface which should still be blank by now. In the next steps we are going to build this step by step in the order shown below. You can zoom in and out on the code interface by pinching your fingers.

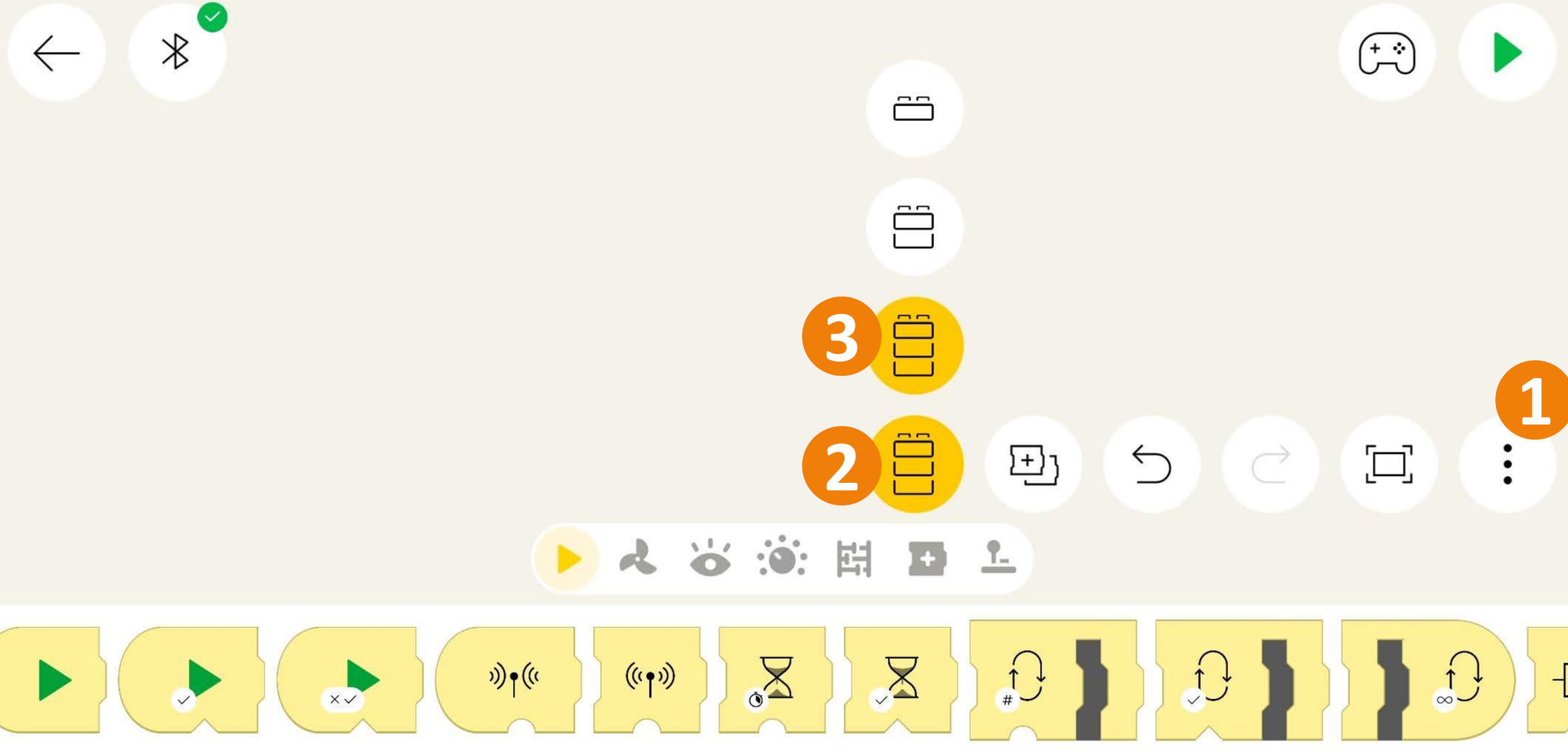




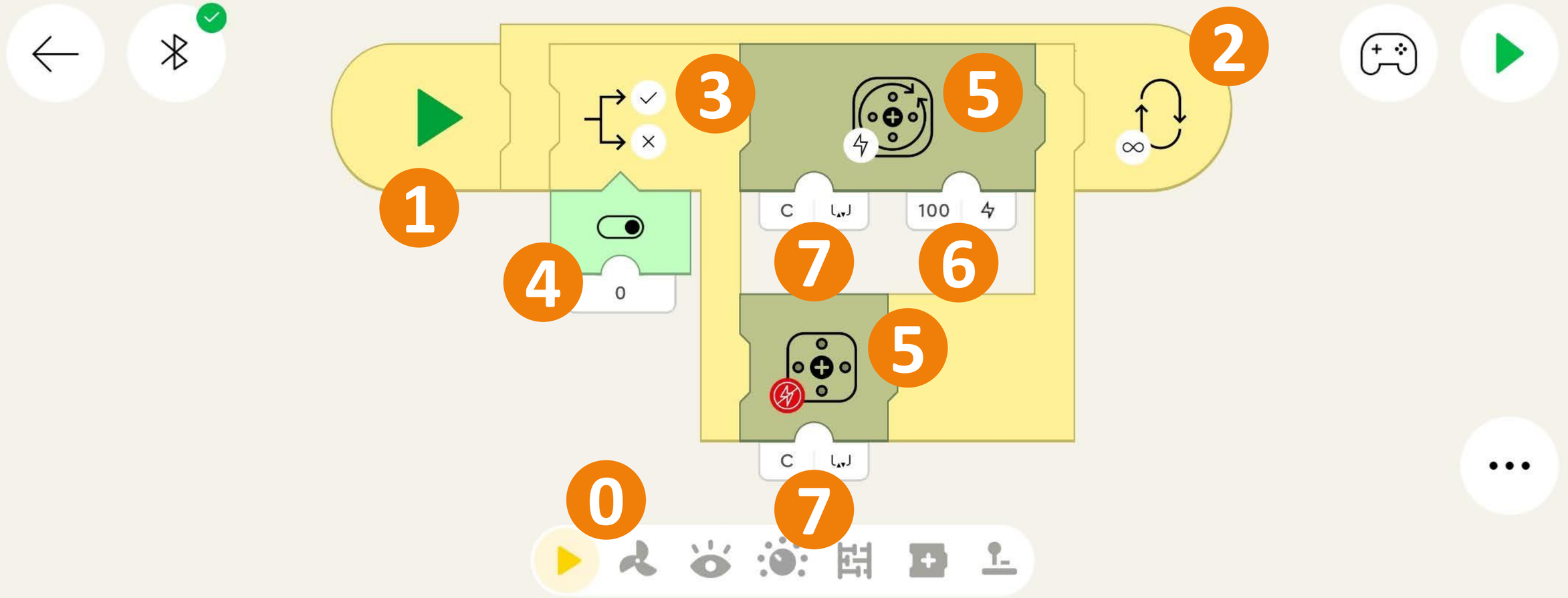




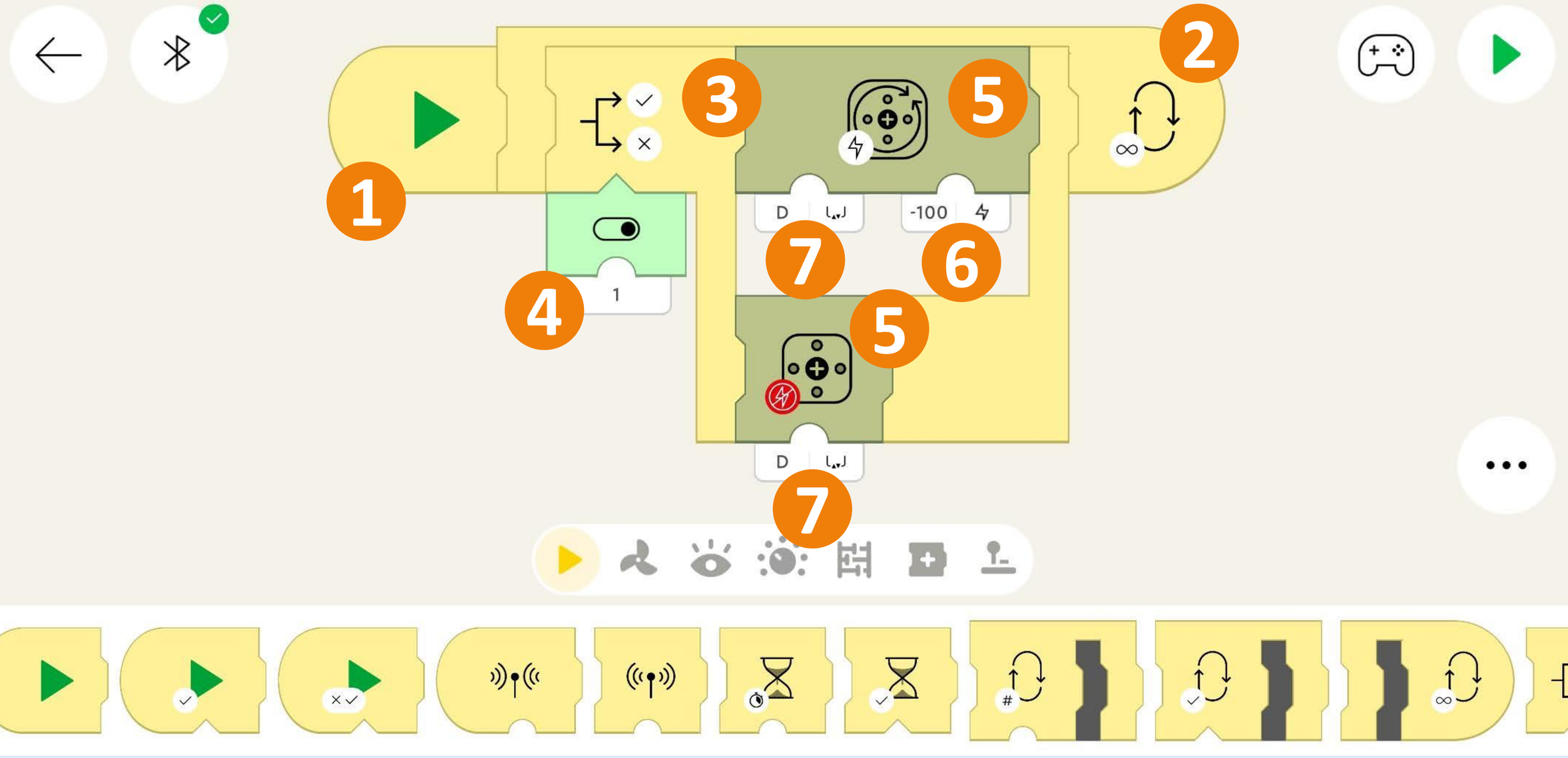
Before we start let us first double check if the Default Palette Level is set correctly. Click on the 3 dots (1) and select the 3 brick icon (2) (3).



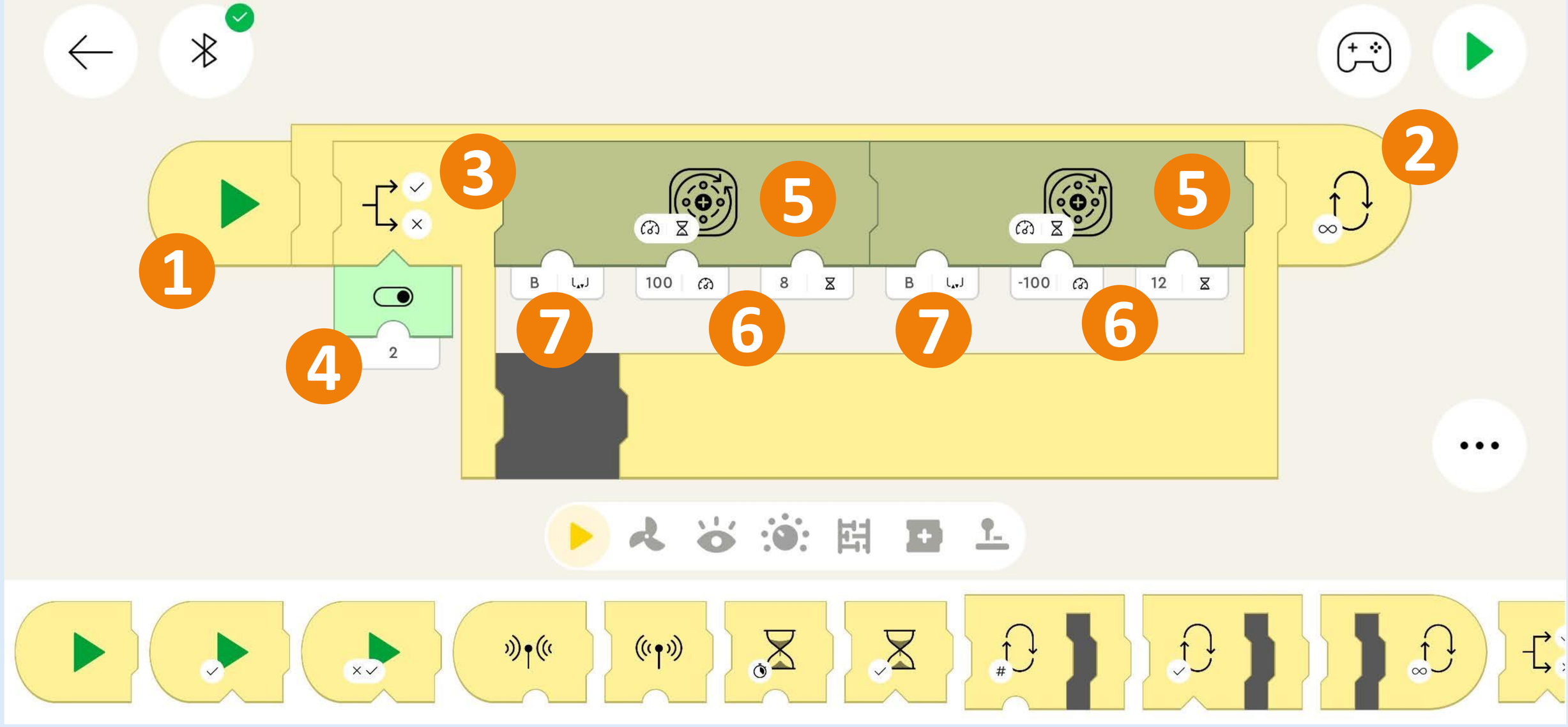
This code is for the Wave Machine Module. You can find all the blocks in the library of the same color (0). Drag them into the project one by one on the code interface. Start from the left and work from the outside in. So first get the yellow start block (1) followed by a loop block (2). Inside this loop block you have to place a toggle block (3) which are triggered by button 0 (4). Then add the motor blocks (5) and set the correct speed (6). Make sure to select output C for both motors (7).



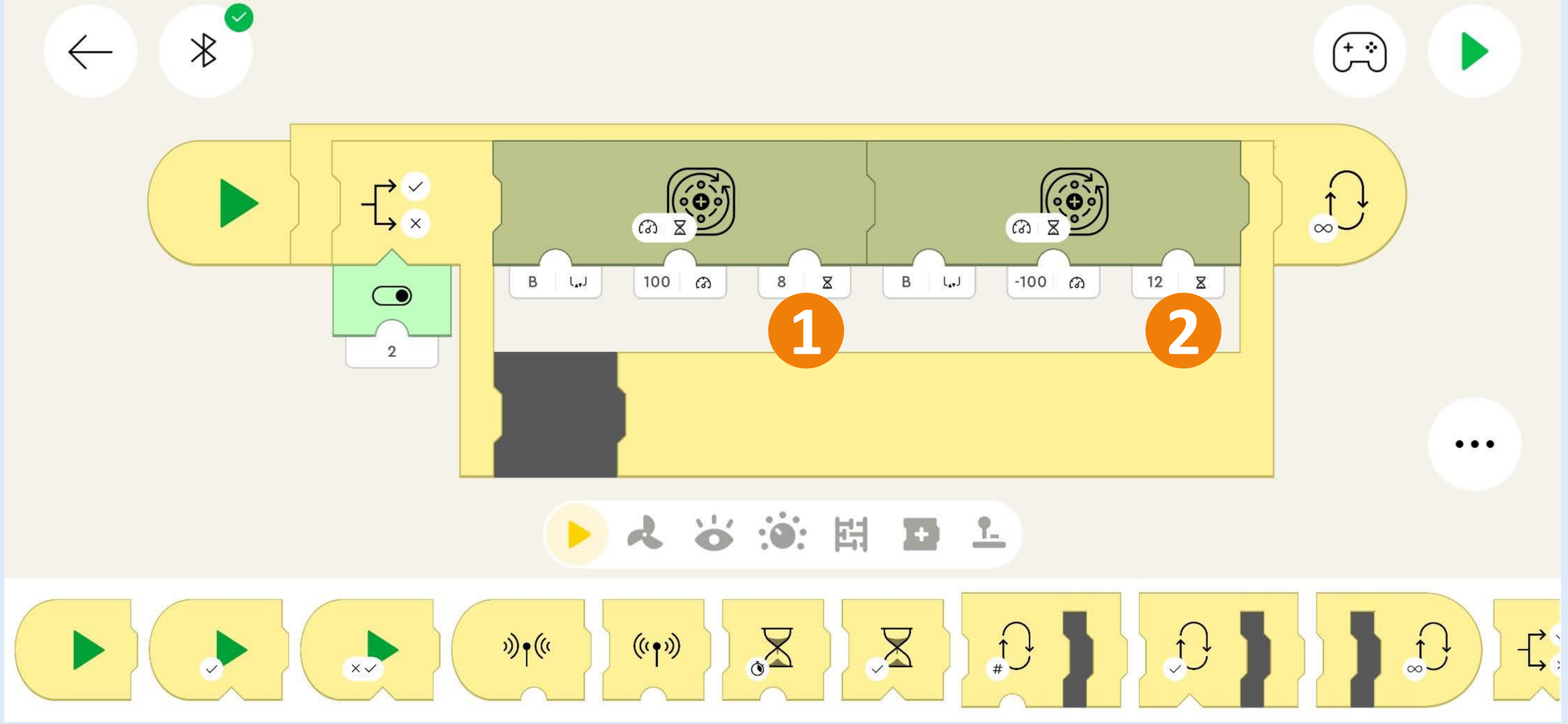
This code is for the Dual Conveyor Module. Get another yellow start block (1) followed by a loop block (2). Inside this loop block you have to place a toggle block (3) which are triggered by button 1 (4). Then add the motor blocks (5) and set the correct speed (6). Make sure to select output D for both motors (7). You can change the speed of the motor by changing the -100 value. It is important that the motor is negative set to -100 and not 100 as this determents the motor direction!



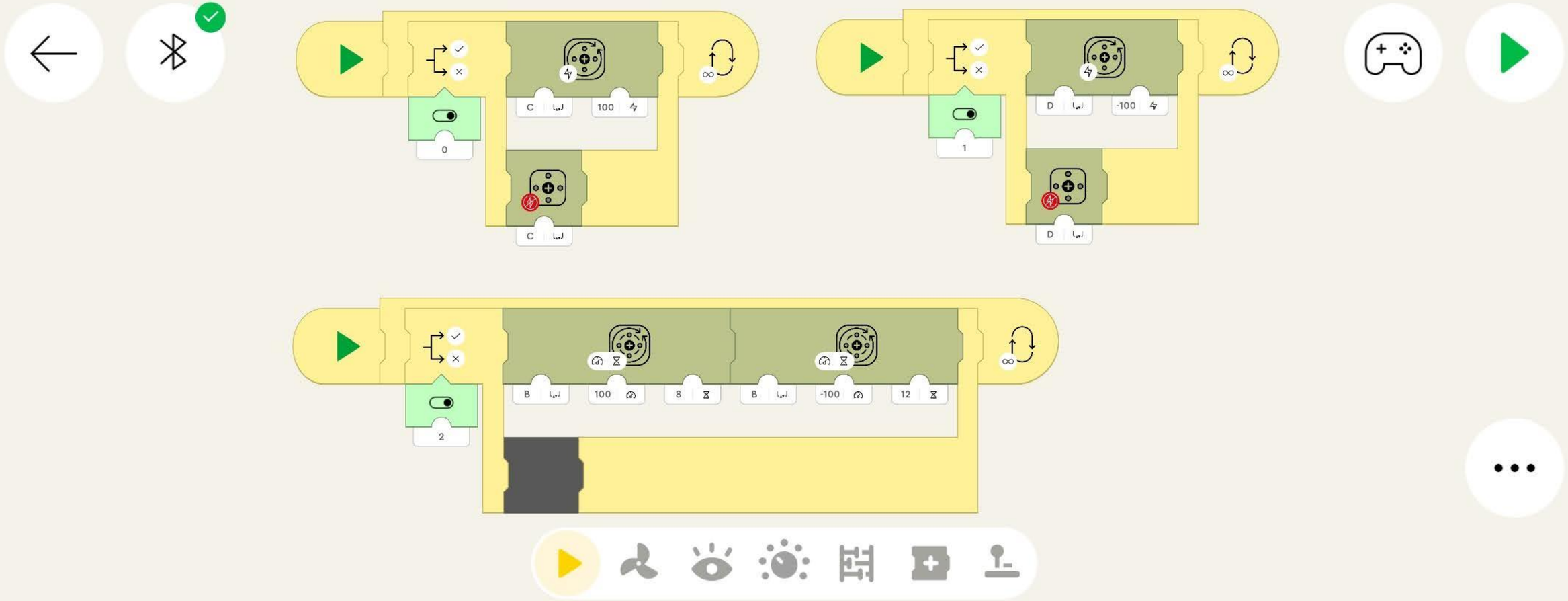
This code is for the Vertical Lift Platform. Get another yellow start block (1) followed by a loop block (2). Inside this loop block you have to place a toggle block (3) which are triggered by button with address 2 (4). Then add 2 motor blocks (5) and set the correct speed and time (6). Make sure to select output B for both motors (7).



Due to gravity, weight and friction we have set the time to travel up to 12 seconds (2) and for down 8 seconds (1). If the Vertical Lift Platform doesn't reach its top completely you can adjust the timing settings (1) (2).

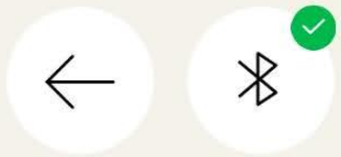


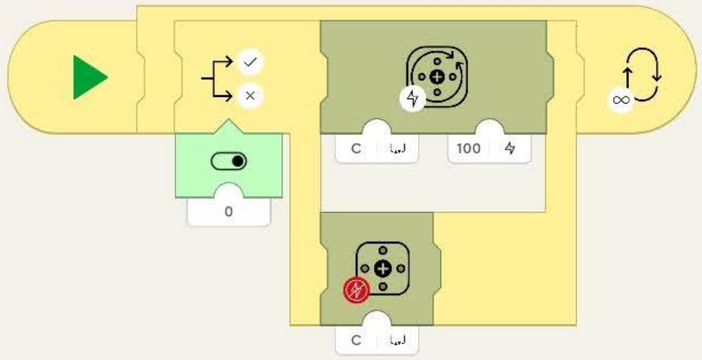
The end result should look like this. You should have 3 individual starting blocks followed by code.

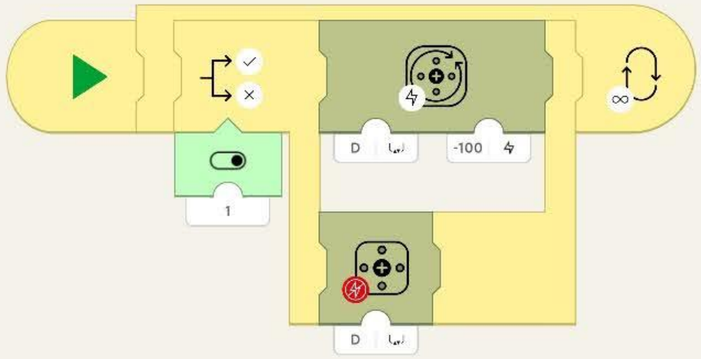


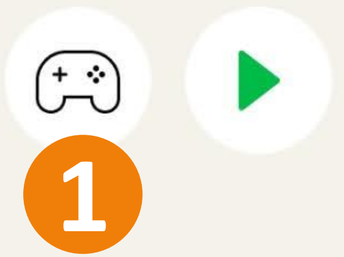
Now we have to setup the LEGO Powered Up hubs. Click on the Bluetooth Icon and turn the hub on (1). You can optionally rename them clicking on the pencil icon (2). Close the Bluetooth menu if all is exactly like shown below (3).

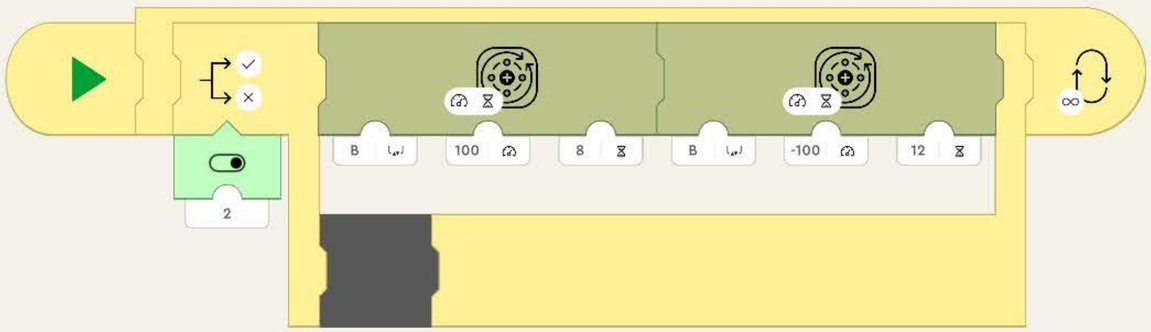
You are all set! Switch to the controller interface to control the machine (1).
Feel free to explore the code and add your own functionality.
We can’t wait to see all your cool inventions!

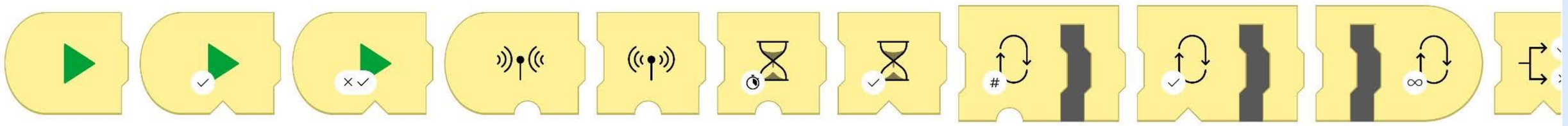












The blue toggle switch (1) powers the Wave Machine Module. The yellow toggle switch (2) powers the Dual Conveyor Module. The red toggle switch (3) activates the auto mode for the Vertical Lift Platform.