



Programming Bongo Drum

SCRATCH



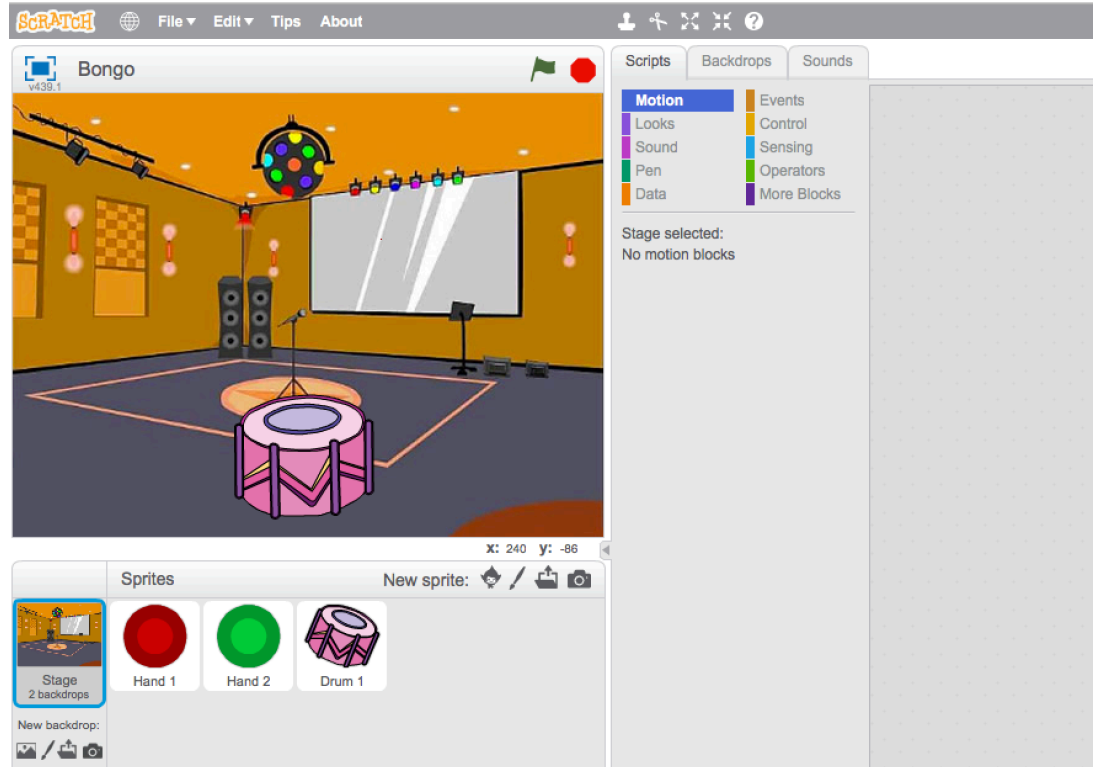


Bongo

We are going to create a bongo drum game

Let's start with opening the project 'Bongo.sb2'.

Go to File -> Open and pick 'Bongo.sb2'





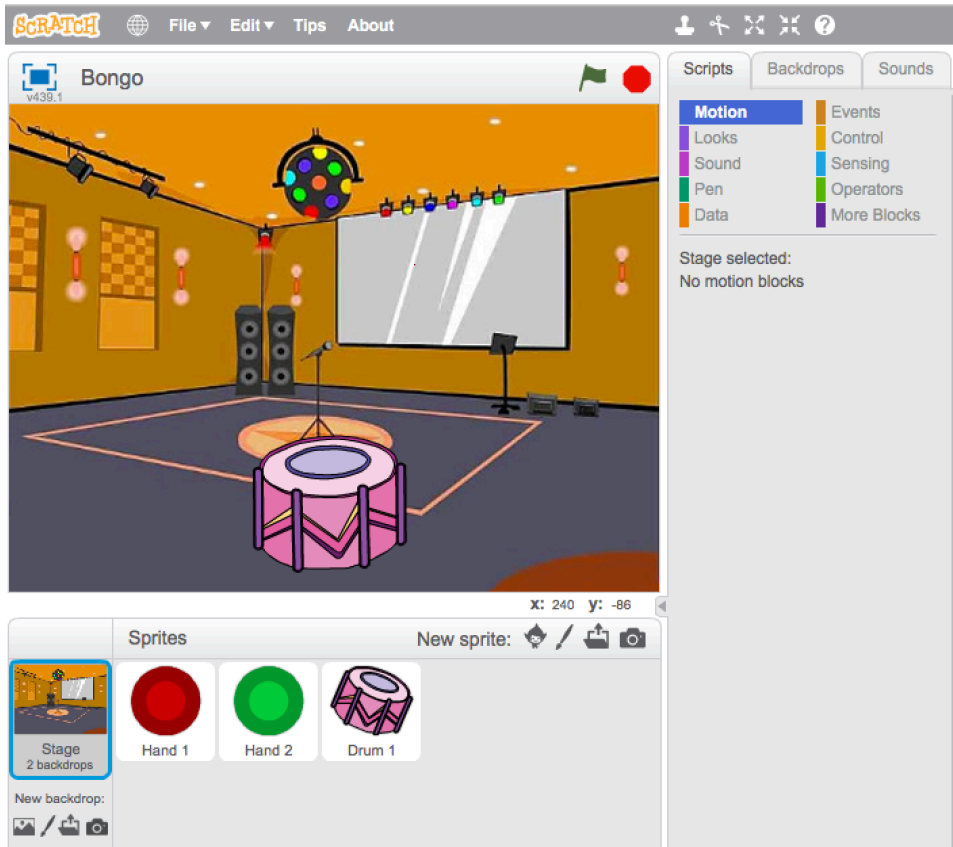
Bongo

The project is now ready.

As you can see, the party is about to get started! The speakers are connected. The drum is in place.

Let's get this party started. We are going to add

- Drum sounds when we hit the drum
- A friend who dances to the drum





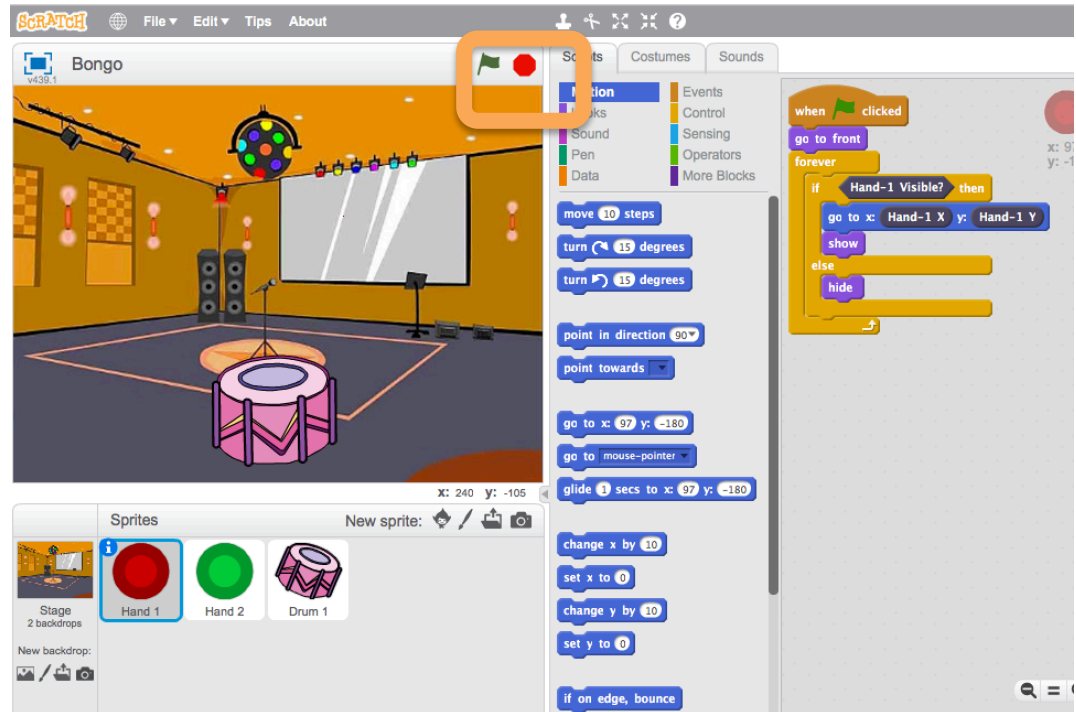
Bongo

Let's see what happens when we click on the green flag.

If you hold both your hands above the leap motion, the red and green circles will appear and follow your hand movements.

When you pull your hands, the circles will disappear.

Lets try it!





Bongo

Nothing happens when you move your hands over the drum, let's change that!

Click on the drum in the Sprite window. On the right, you will see the scripts building blocks.

It only contains the starting block. Nothing will happen when we run the program.

Next, we are going to add all the blocks we need, so that we can really drum with our hands.

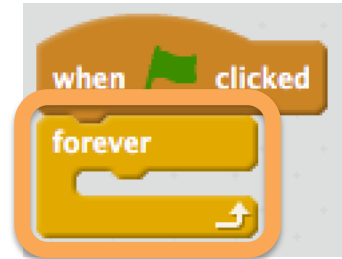




Bongo

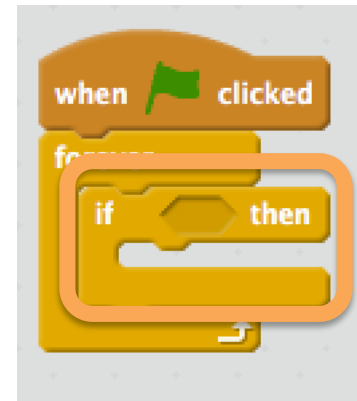
First, we need to add the 'forever' block, so that the program keeps repeating itself

Click on '**Control**' and drag the '**forever**' block to the program area, underneath the start-block.



Next, we are going to create the part of the instruction that checks if the hand touches the drum. For that we need a if-then block.

Drag the '**if - then**' block onto the program area and drop it inside the forever block.





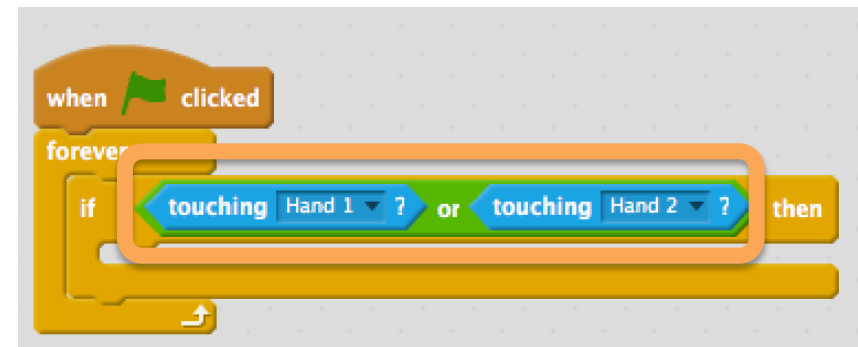
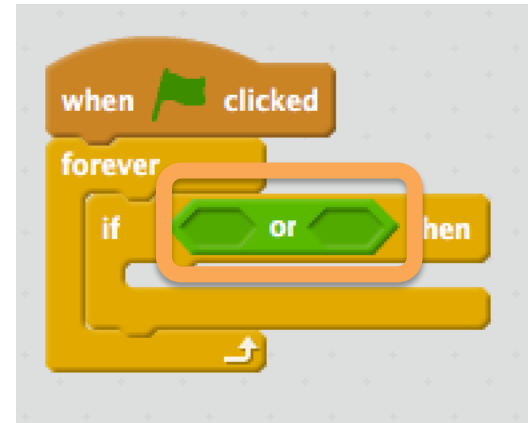
Bongo

Next, we are going to create the condition that determines if the drum is 'touched'. We want this condition to be true if the sprite hand1 or hand2 touches the drum. We start with an or-block

Click on '**Operators**', then drag the '**or**' block into the 'if'-block.

Click on '**Sensing**', then drag two '**touching ?**' blocks into the diamond shaped area within the '**or**'-block.

Next, click on the arrow in the first block and select '**Hand 1**', and click on the second block and select '**Hand 2**'





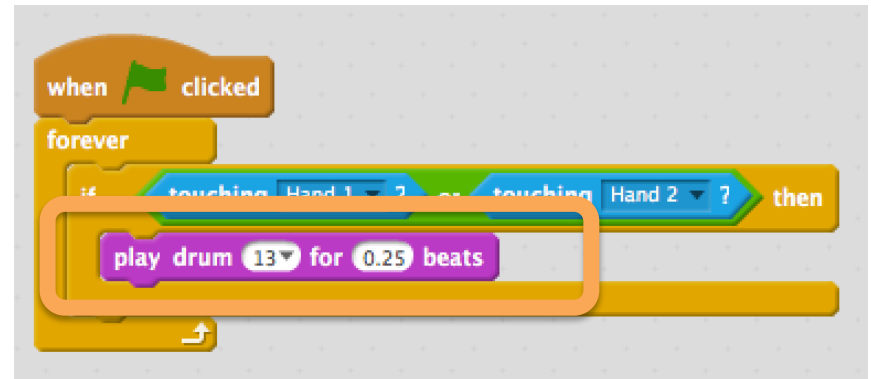
Bongo

We want the drum to make some sound when we touch it.

Click on 'Sound', then drag the 'play drum for - beats' into 'if - then' block. Click the first arrow and select a sound of your choice.

Try and click on the green flag, and see what happens.

If you move a hand towards the drum, the drum starts. If you move your hand away from the drum, the sound continues. That's not good. Let's fix this!





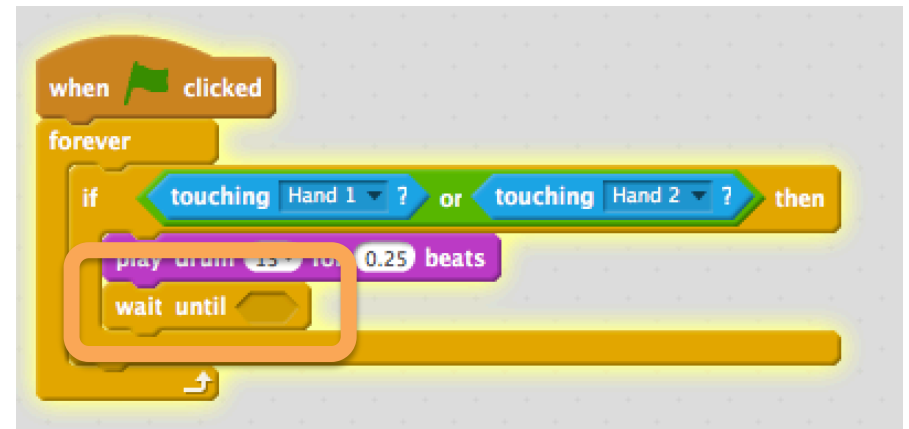
Bongo

We only want the drum to make sound if we touch it.

We can make the program wait until both hands are not touching the drum anymore, before it starts checking again.

Click '**Control**' and drag the '**wait until**'- block underneath the '**play drum**' block

Next we will create the condition that checks that the drum is not touched by both hands





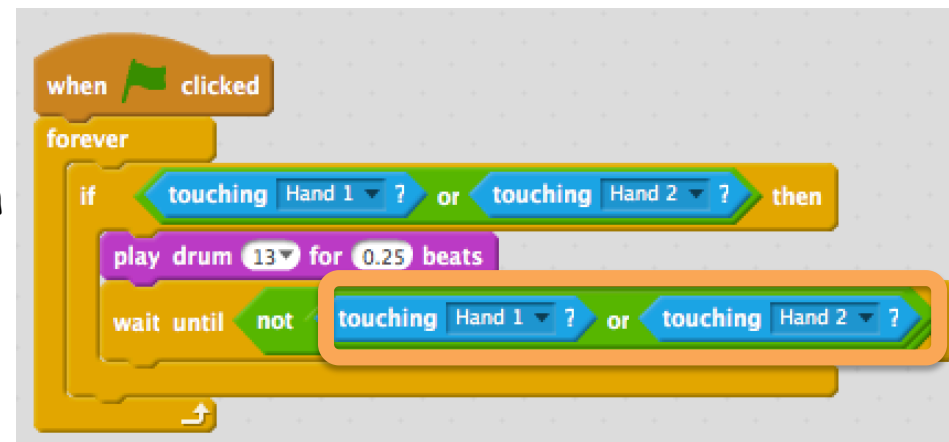
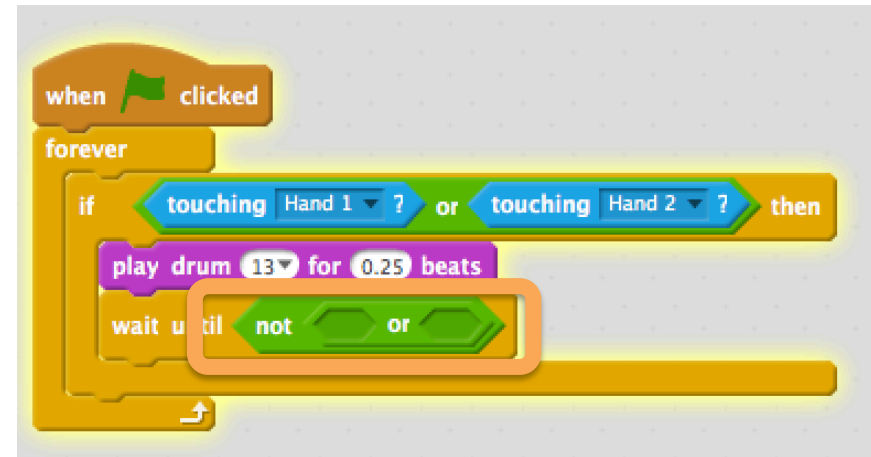
Bongo

Click on the 'Operations' block, and drag the 'not' into the 'wait until' block. After that, we need to drag a 'or' block into the 'not' block

Click on 'Sensing', then drag two 'touching ?' blocks into the diamond shaped area within the 'or'-block.

Next, click on the arrow in the first block and select 'Hand 1', and click on the second block and select 'Hand 2'

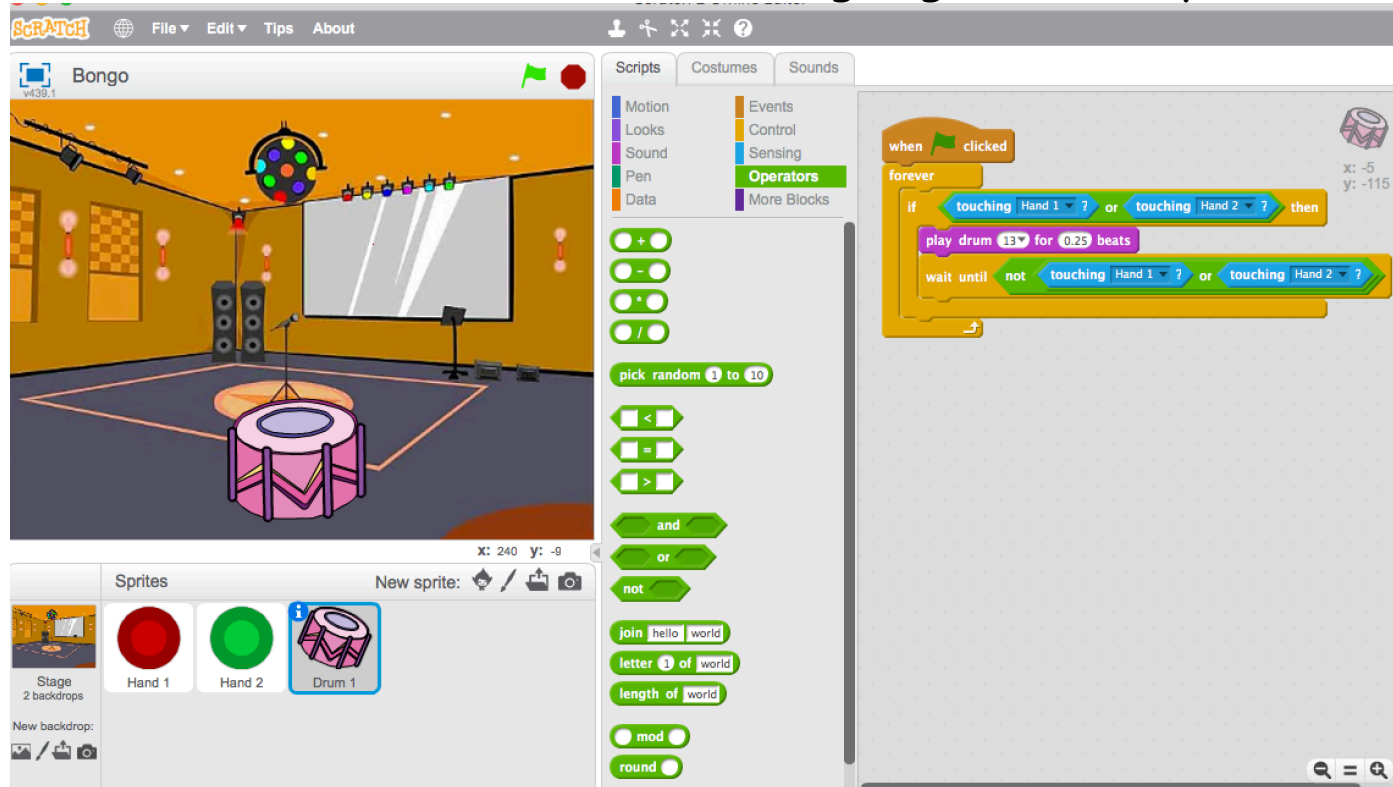
Now, retry the program again





Bongo

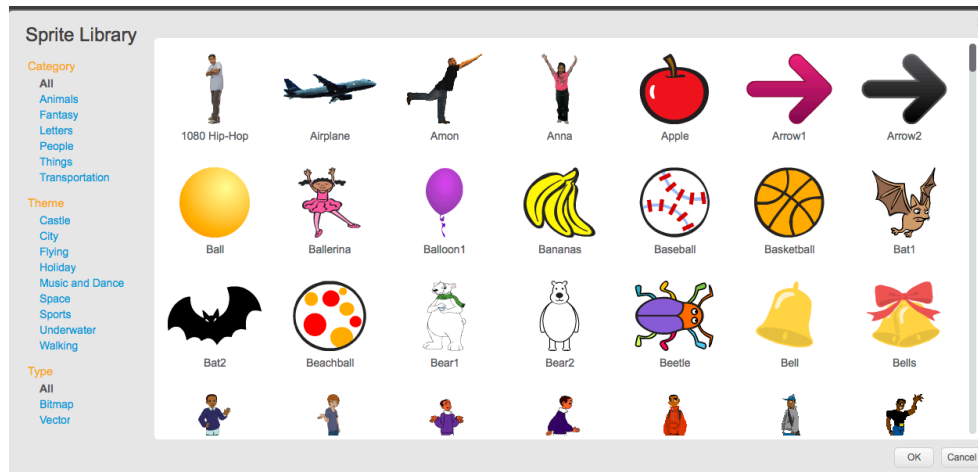
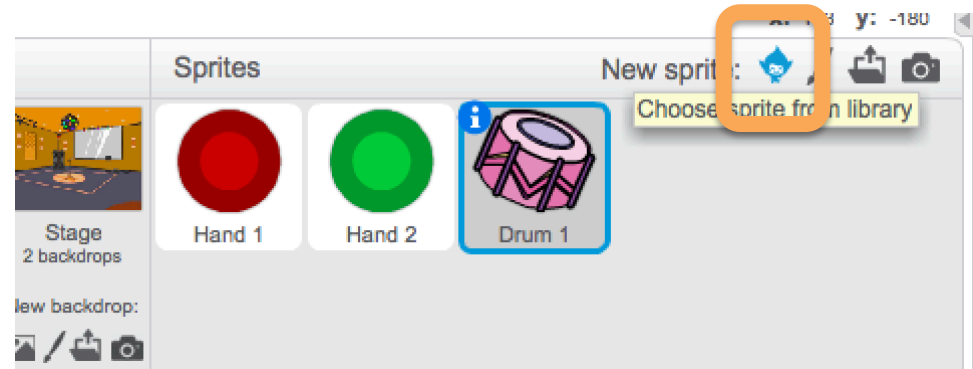
Everything is working! Now we are going to add a dancer who dances to the beat of the drum. We are going to add a sprite





Bongo

You can add a new sprite by clicking on the avatar in the sprites panel.



Select the 'Music and Dance' theme and pick one of the Hip-Hop characters.



Bongo

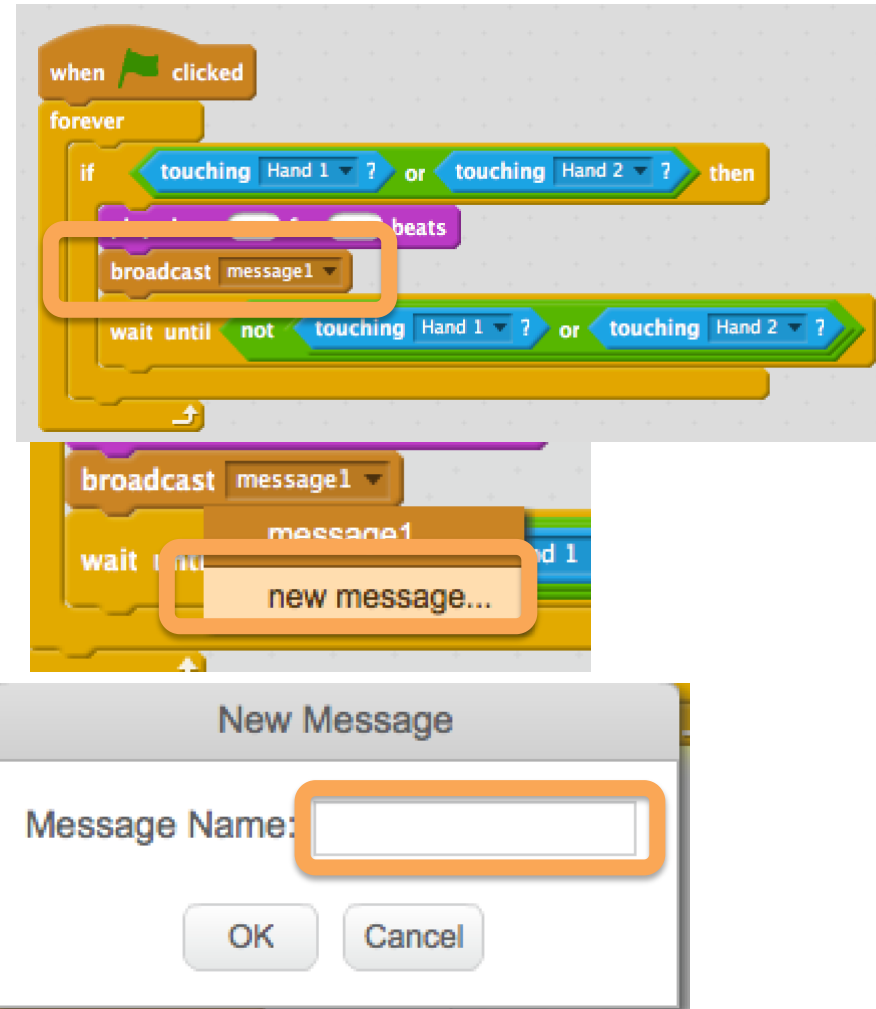
Now we have to give the dancer sprite instructions to dance to the beat. We can do this by making the drum send out a specific message when the drum is hit.

Select the drum sprite

Click on '**Events**', and drag the '**broadcast signal**' block in between the 'play drum' and 'wait until blocks

Click on 'message 1' and select 'new message...'

Name the message 'drum hit' and click OK





Bongo

Now, we will make the dancer move if he/she receives the 'drum hit' signal

Select the dancers sprite.

Click on '**Events**' and drag the '**when I receive message**' block onto the program field. Select the 'drum hit' message in the dropdown.

Click on '**Looks**' and then drag the '**next costume**' underneath the '**when I receive message**' block.





Bongo

Try to expand the program

You can do this by adding more dancers and more drums that make different sounds

