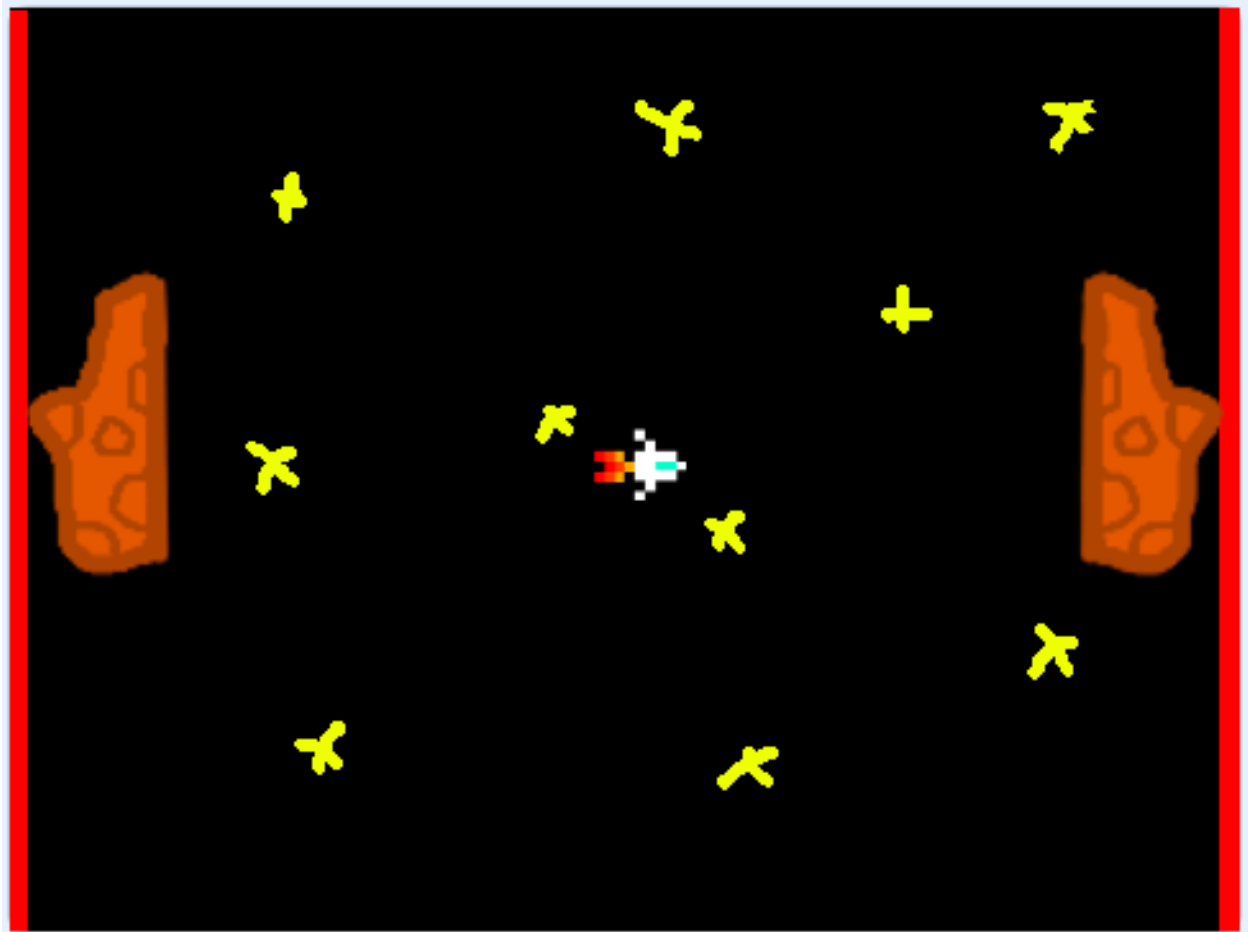
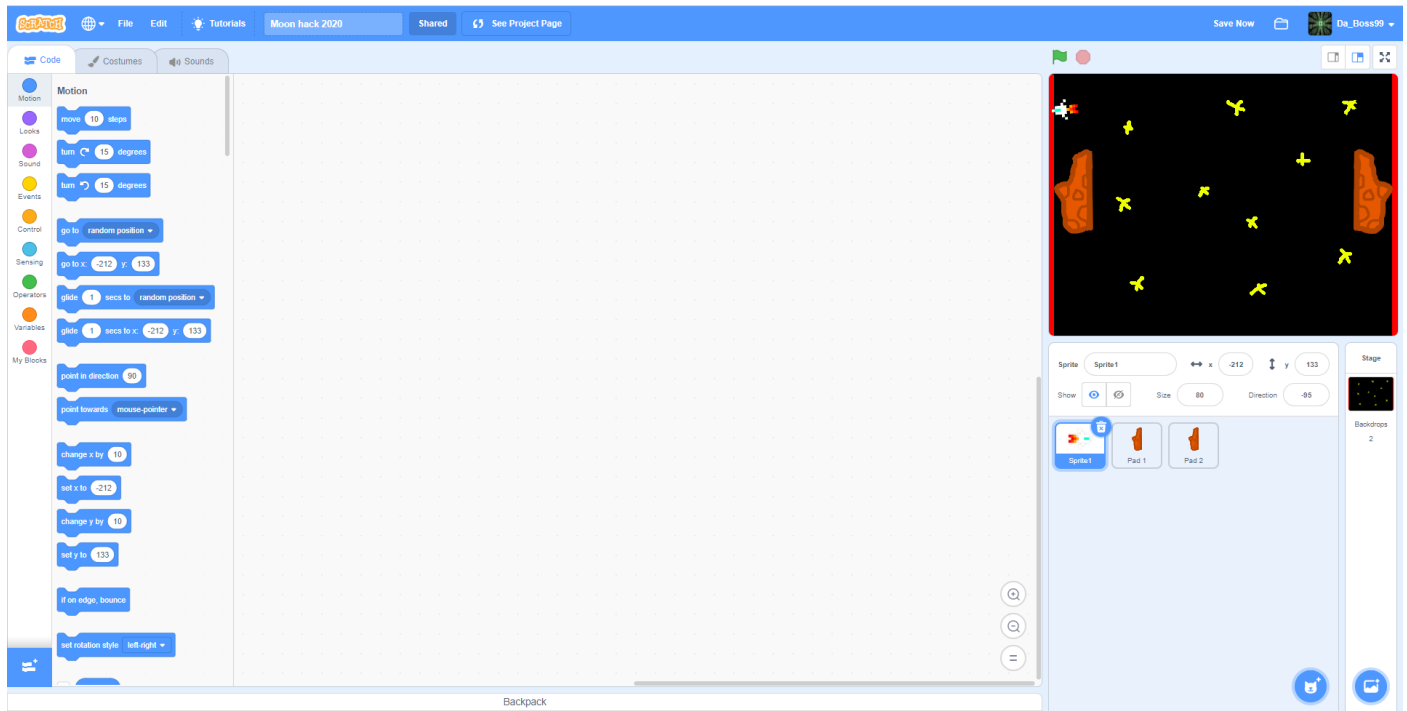


# MOONHACK PONG



Made by Robert and Ollie  
MOSGIEL CODE CLUB

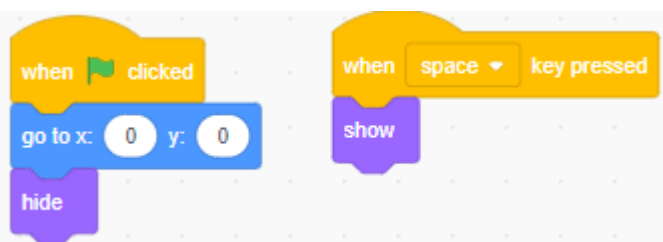
So to start off we need you need to go to [scratch.mit.edu/projects/327079822/](https://scratch.mit.edu/projects/327079822/) and click remix. Now you'll see a screen that look like this. This will be the base plate for your pong game.



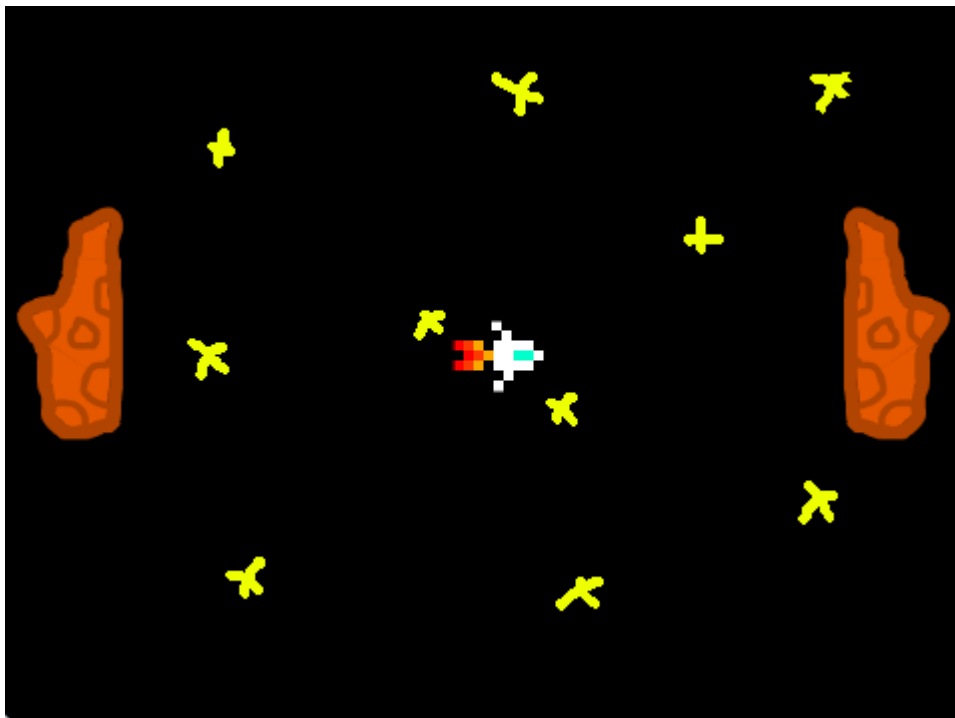
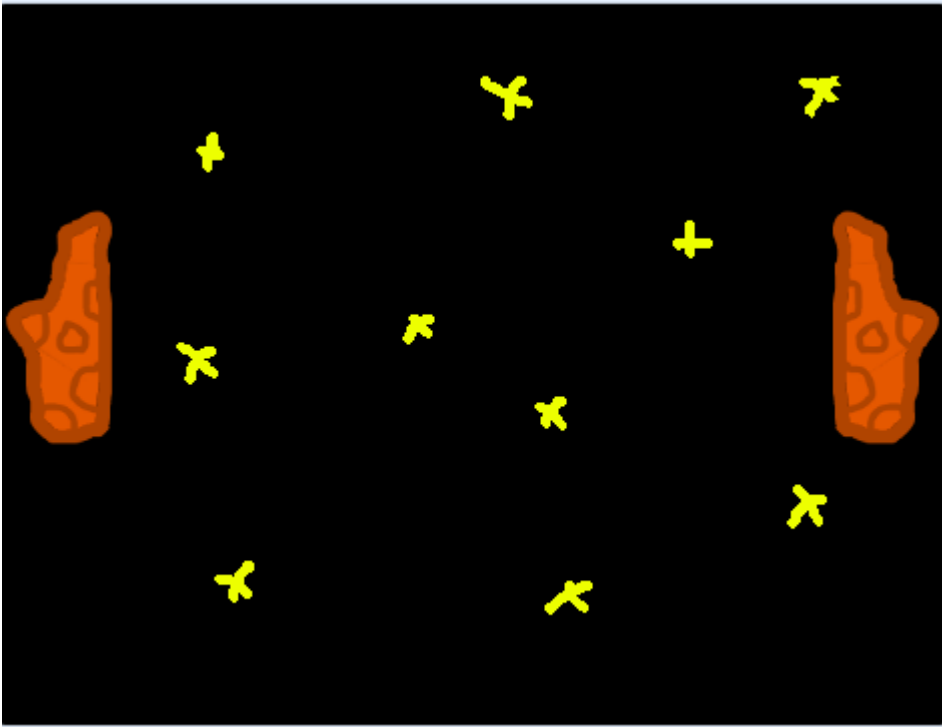
If Sprite1 isn't selected then click on it to select it. Now we want it to start in the middle every time. For that you'll need to get a when start clicked block from events and a go to from move. You can attach these blocks together by dragging the move block under the start block.



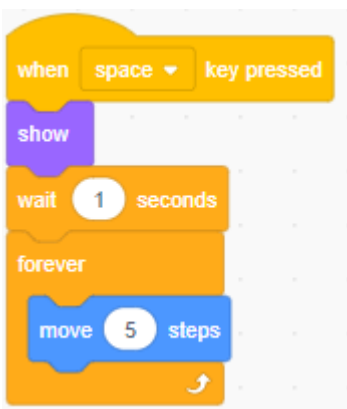
Now once you've done, we need to be able to let the players get ready before starting so let's do that by adding a hide and show from looks and a when space clicked from events. Now put the hide onto the bottom of the main code and the show underneath when start clicked.



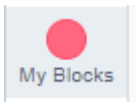
Now if you click the flag the ship will disappear then if you press space it will show.



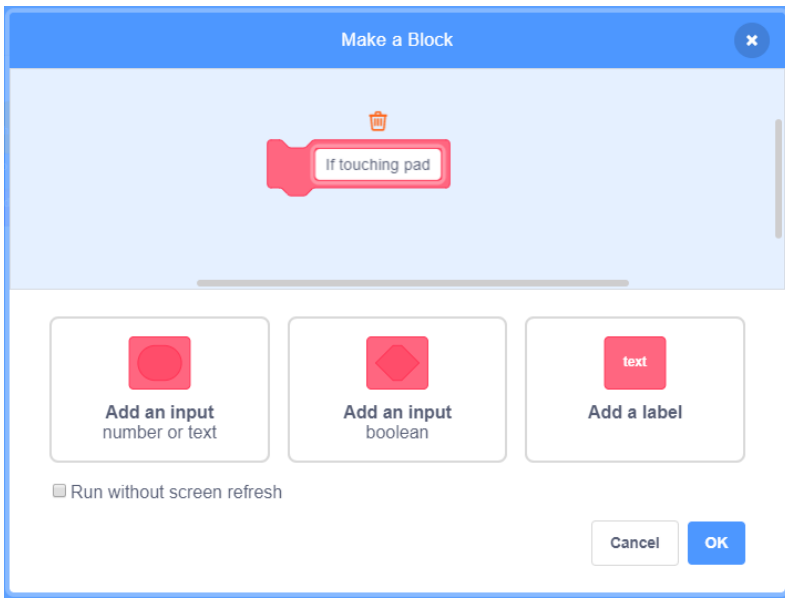
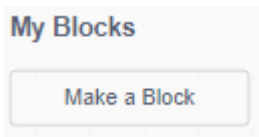
Now we need to make the ship move once you've pressed space. So to do this we're going to need a few blocks from different places. You going to need to add on to the when space pressed block.



Now once you click start and press space it should start moving after 1 second. Still we need to run multiple pieces of code in one block. So click on my blocks.



Then make a block called if touching pad.



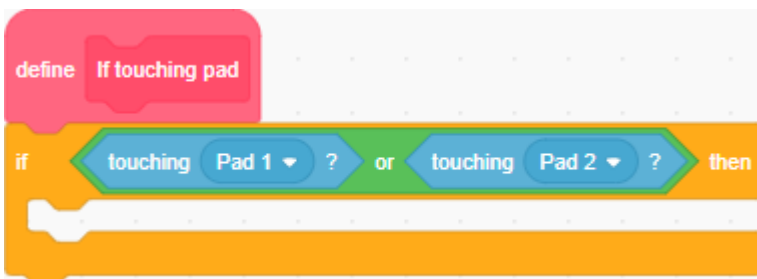
Now you should see a new block appear in the workspace and attach an if block to it.



Now grab these 2 blocks and drag them into the workspace.



Now put them into the if statement like this. You'll need to grab another touching block.



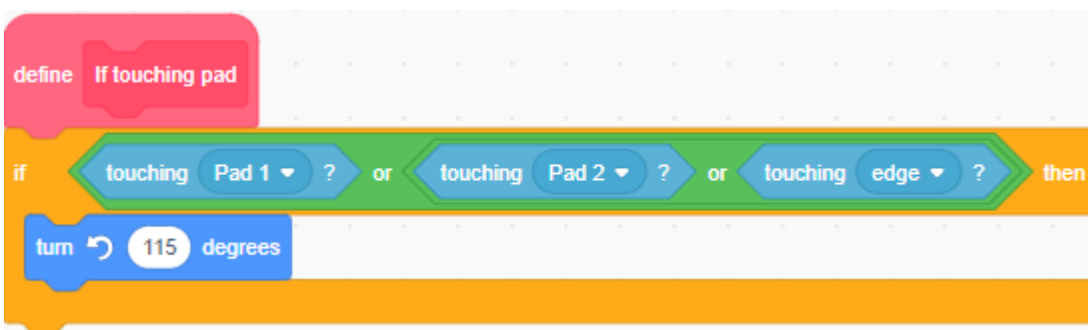
The cool things about scratch is you can stack as many operators on top of each other as you want. So you want to stack 2 or blocks on each other like this.



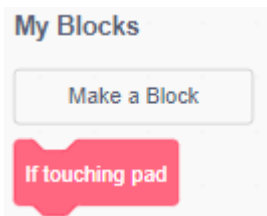
Now grab another touching block and put into the if block like this.



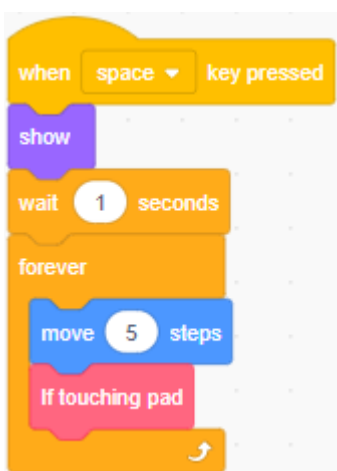
Now you need to add a turn block in the if so when it hits any of the following.



Now drag this block,



Into here.



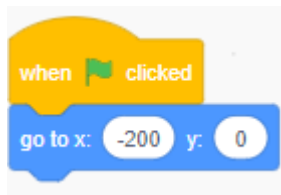
Now add a point direction to the when start clicked block.

```
when clicked
point in direction 90
go to x: 0 y: 0
hide
```

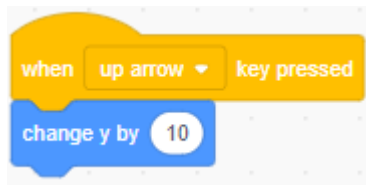
Now if you run it, it should work but it will a fairly sharp turn if it hits one of the edges, so lets soften it a little by doing this.

```
define If touching pad
if touching Pad 1 ? or touching Pad 2 ? then
turn 115 degrees
if touching edge ? then
turn 45 degrees
```

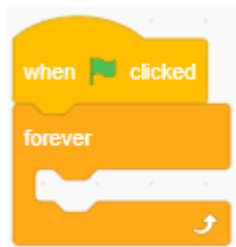
Now click on the Pad1 sprite and put this into it.



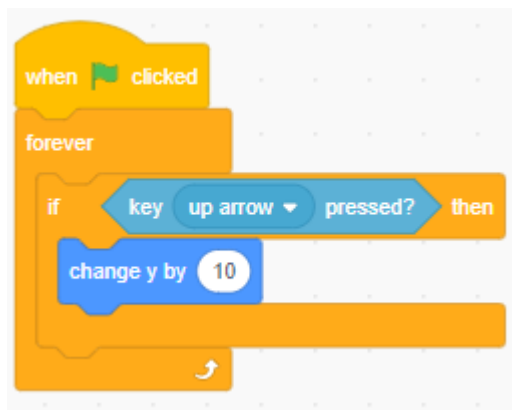
Now to make it move up out this in.



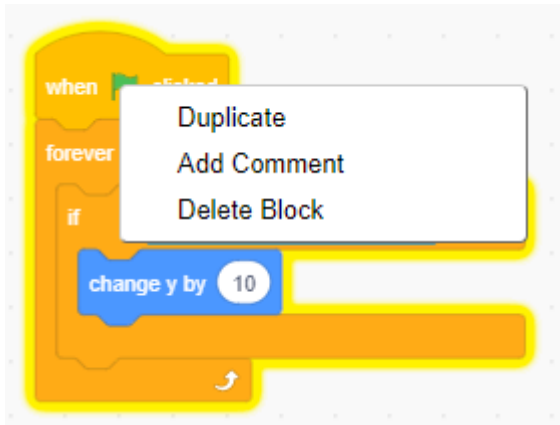
But this is a bit chunky so let's change it to something better. We'll get a when start clicked and a forever first.



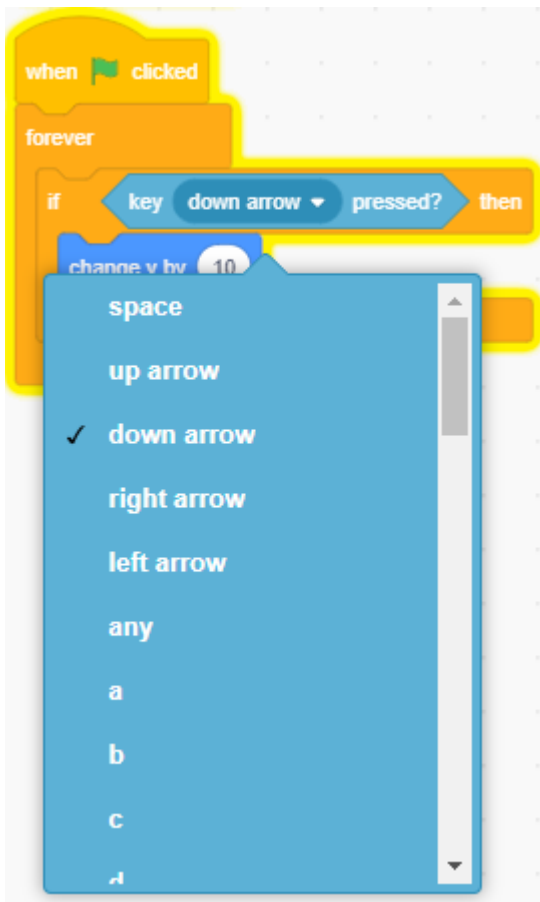
Now get an if so it checks every 100 milliseconds and moves it smoother and put the change y in there.



Now duplicate this by right clicking on when start clicked and click duplicate.



Now go in to the second block and change it to when down arrow pressed.



And change the when up arrow is pressed to 5 and when down arrow is pressed to -5.



```
when clicked
  forever
    if key up arrow pressed? then
      change y by 5
```

```
when clicked
  forever
    if key down arrow pressed? then
      change y by -5
```

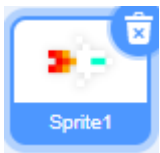
Now if we start we are able to move the pad up and down, but also of the screen so we need to be able to stop that. To do that there's a block that stops it going off screen. If on edge, bounce.

```
when clicked
  forever
    if key w pressed? then
      change y by 5
      if on edge, bounce
    if key s pressed? then
      change y by -5
      if on edge, bounce
```

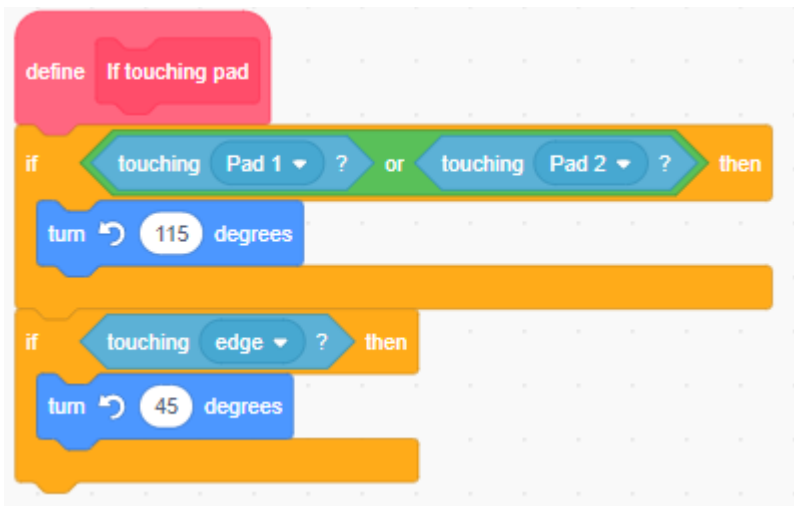
Now if you press start it shouldn't go off screen. But it may bend a bit so add this to it to stop it from.

```
when clicked
  forever
    point in direction 90
```

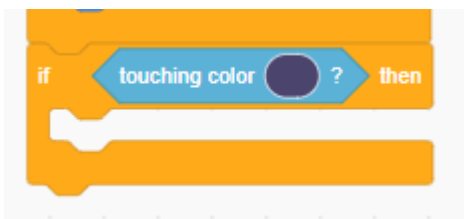
Now we need to go back into the ship sprite, so click on it.



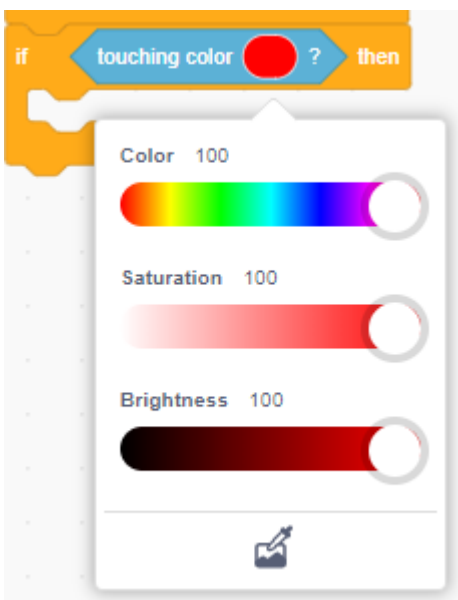
Now we need to go to the block you created.



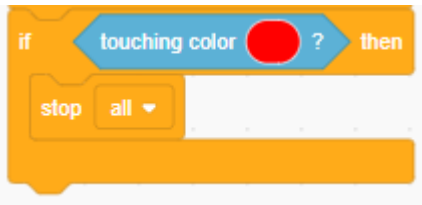
And add the following block found in sensing.



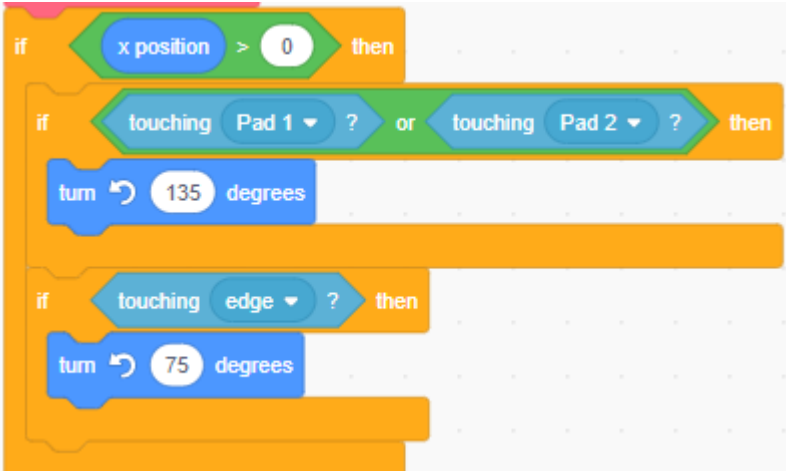
Now we need to change it into the border colour, red so put the bars exactly like the ones shown.



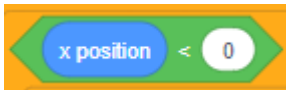
This will act as what happens when the ship gets past a pad. If you add a stop all block it will freeze when someone loses.



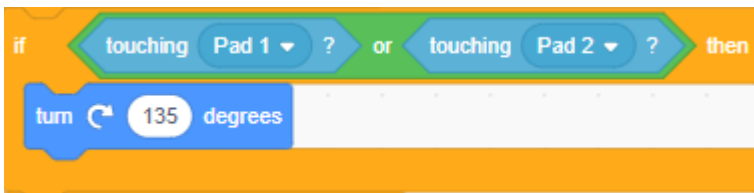
We want it to say which side it loses on and this may get a bit complicated so don't worry if you get lost. We want to wrap the custom block in an if then put a greater than ( > ) block and an x position in it like this.



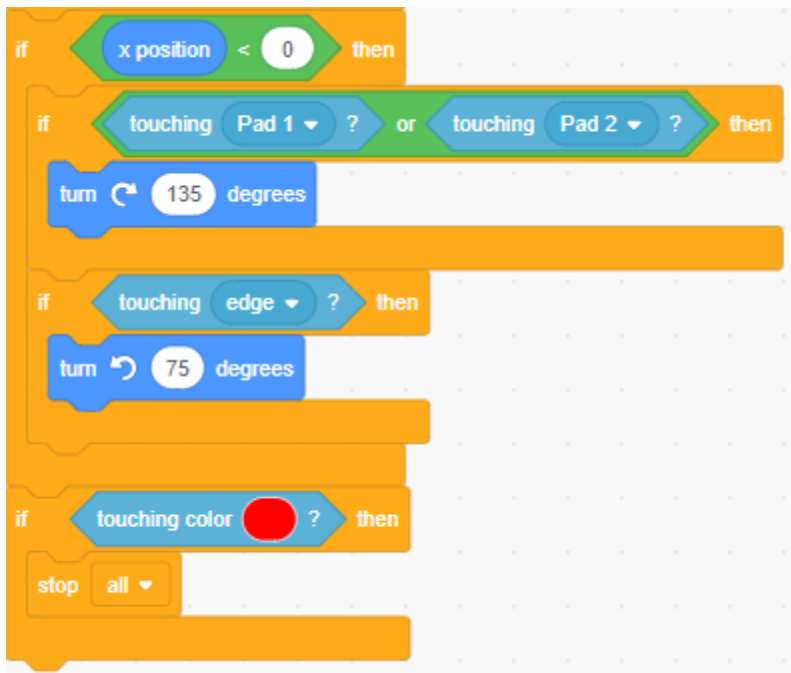
Make sure the every block is inside it. Now right click the if x position and DUPLICATE it. Put it underneath the other one. **We are now going to work on the second block.** Change the if greater than to an if less than. ( < ).



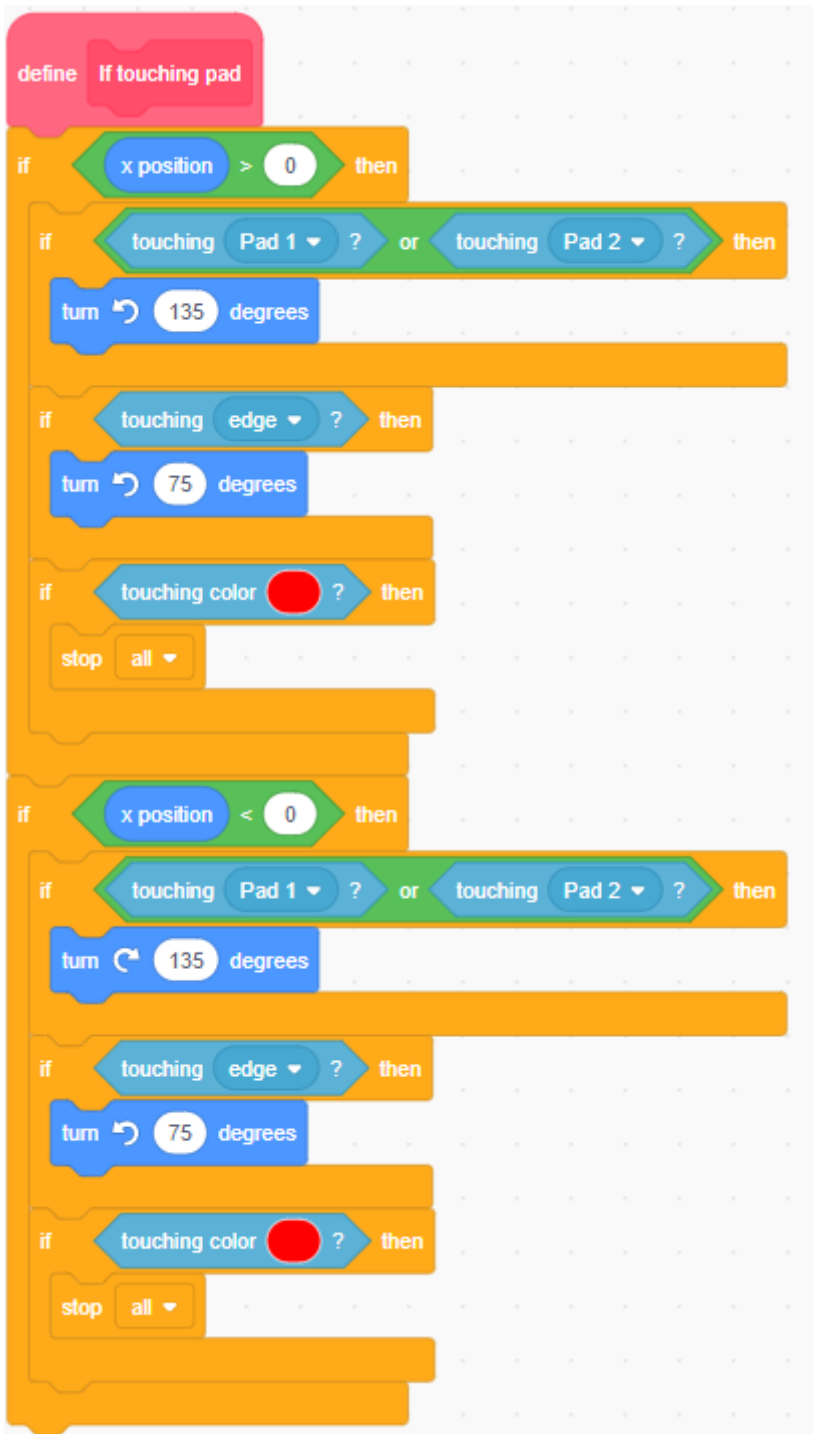
Now change turn 135 so it rotating the other way.



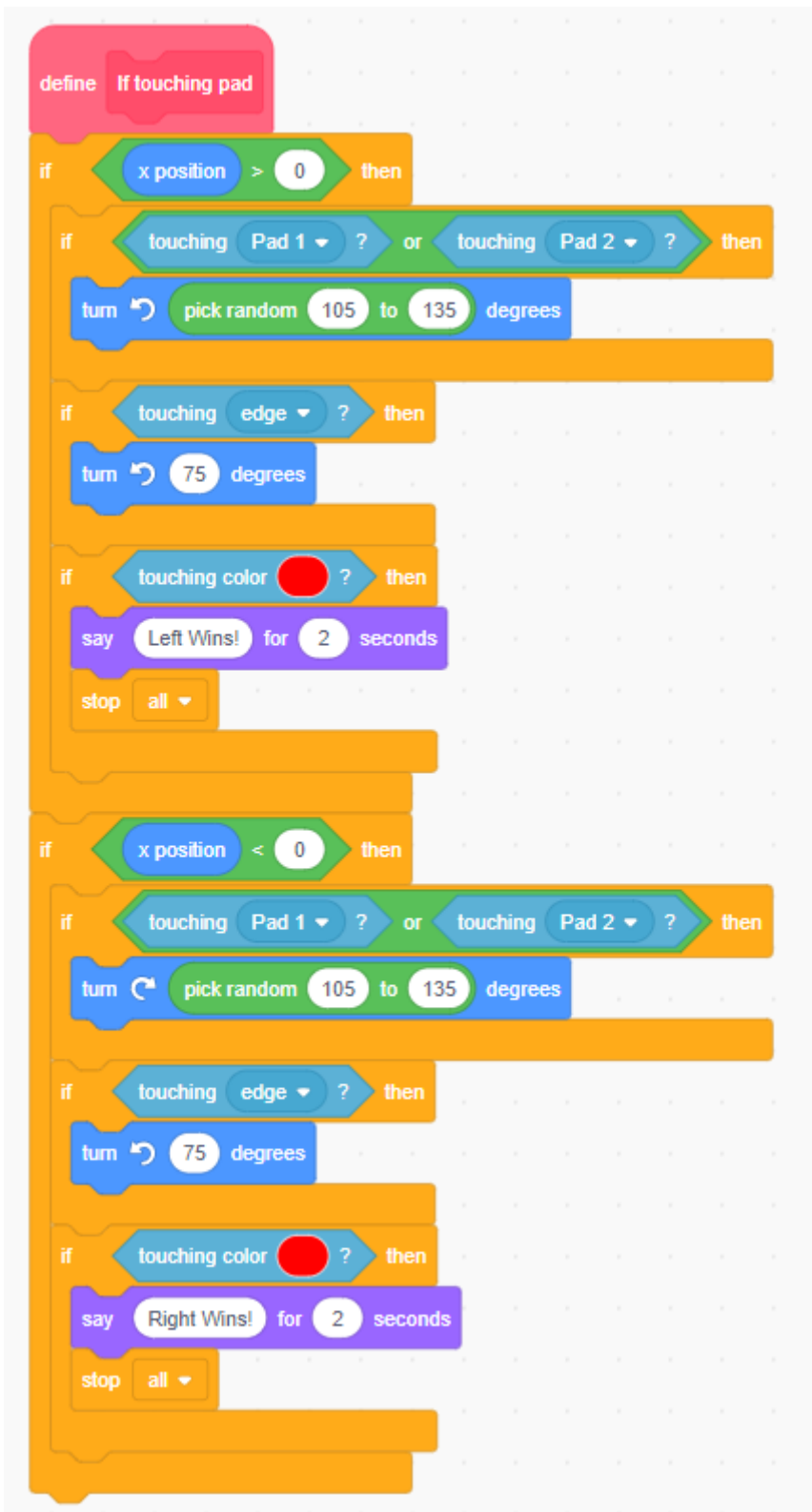
The block should now look like this with the turn {direction} degrees facing the right way and the if less than all correct.



The entire block should look like this.



Now we want to make it say what side it wins on. So let's add a say block to the mix. We'll add Left Wins! Before the first stop and Right Wins! On before the second's top like so. If you have a keen eye you also might have noticed the pick randoms in the turn blocks, this will add just a bit of difference to every game instead of them all being the same. This block can be found under operators.



Now if you play it you'll see that everything should work except it gets stuck sometimes. So let's fix that with a repeat until under the first if as shown and add the following. Not touching pad 2; change x by -1. This should now stop the ship from having a spaz when it gets stuck, now add the same thing on the bottom and change it to pad 1 and change x by 1.

```

define If touching pad
if <x position > 0 then
if touching Pad 1 ? or touching Pad 2 ? then
turn pick random 105 to 135 degrees
repeat until not touching Pad 2 ?
change x by -1
if touching edge ? then
turn 75 degrees
if touching color red ? then
say Left Wins! for 2 seconds
stop all
if <x position < 0 then
if touching Pad 1 ? or touching Pad 2 ? then
turn pick random 105 to 135 degrees
repeat until not touching Pad 1 ?
change x by 1
if touching edge ? then
turn 75 degrees
if touching color red ? then
say Right Wins! for 2 seconds
stop all

```

Now change the bottom if touching edge so it faces the other way and now it should be playable.

```

if touching edge ? then
turn 75 degrees

```

