

Before we begin, Open Scratch



On a Boolean Box



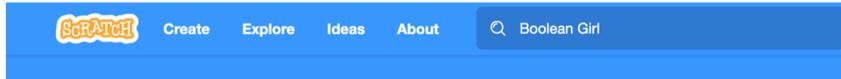
1. Look for the folder "Scratch Courses Boolean Girl"
2. Double click to open it
3. Open the folder 5 – Games
4. Double click on 3-Pong1.sb



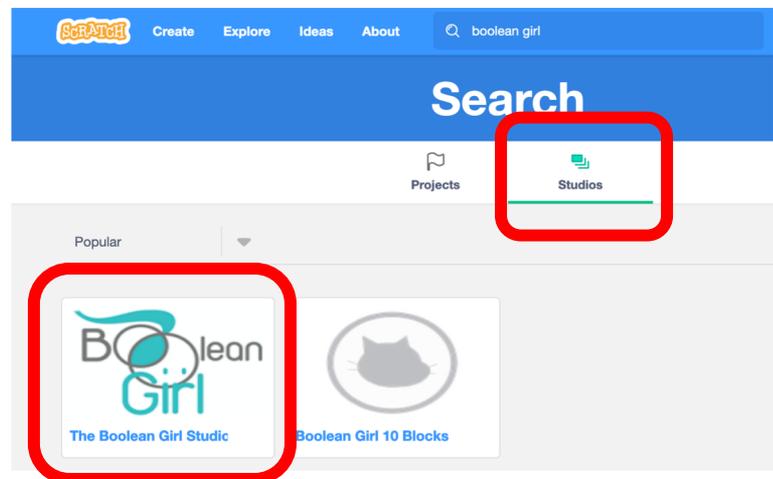
On the web: bit.ly/39AygRD

OR

1. On the web go to: <https://scratch.mit.edu/>



3. Open the Boolean Girl Studio



4. Open Boolean Girl Pong1

Raise Hand



Ask Question

A screenshot of a GoTo Webinar interface. At the top, there is a menu bar with 'File', 'View', and 'Help' options, along with a globe icon and window control buttons. Below the menu bar, there are two main sections: 'Audio' and 'Questions'. The 'Audio' section has a dropdown arrow and a 'View audio options' link. The 'Questions' section has a dropdown arrow and a text input field with the placeholder text '[Enter a question for staff]'. To the right of the input field is a 'Send' button. At the bottom of the interface, there is a footer section with the text 'Sample Webinar' and 'Webinar ID: 841-801-739', followed by the GoTo Webinar logo and name.

1) Create 3 backgrounds



```
when clicked
switch to background background1

when I receive start
switch to background background2
```

2) Add a Start Button Sprite



```
when clicked
show

when Sprite1 clicked
broadcast start
```

3) Update other Sprites



Paddle

Use **When Green Flag Clicked** to Hide

```
when clicked
hide
```

Add **When I Receive** to start the game

```
when I receive start
show
```

```
forever
if key right arrow pressed?
change x by 10
if key left arrow pressed?
change x by -10
```



Bottom

```
when clicked
hide
```

```
when I receive start
show
```



Ball

```
when clicked
hide
```

```
when I receive start
hide
```

```
wait 2 secs
go to x: 0 y: 215
show
point in direction pick random 160 to 180
set Score to 0
forever
move 10 steps
if on edge, bounce
if touching Paddle?
point in direction pick random 160 to 180
change Score by 1
if touching bottom?
broadcast end
hide
wait 1 secs
stop all
```

1) Add End Background



```
when clicked
  switch to background pongSplash
```



```
when I receive start
  switch to background background2
```



```
when I receive end
  switch to background background3
```

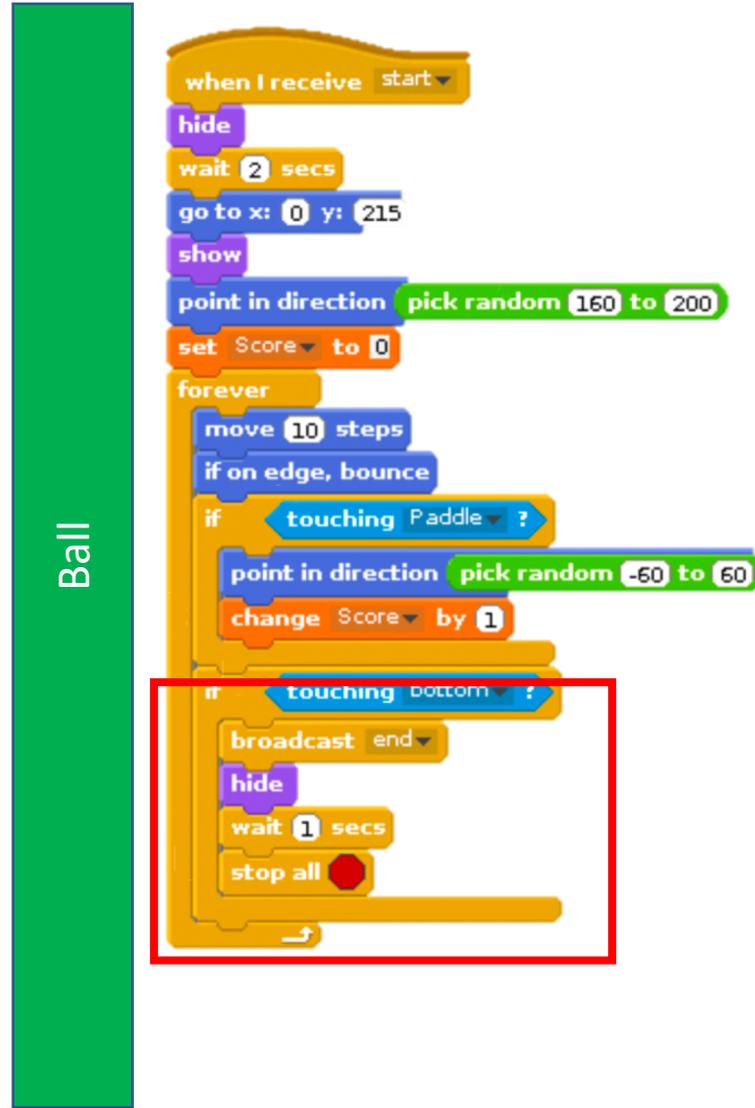
2) Add end code to the Start Button Sprite

Start



```
when I receive end
  show
```

3) Update the Ball Sprite



```
when I receive start
  hide
  wait 2 secs
  go to x: 0 y: 215
  show
  point in direction pick random 160 to 200
  set Score to 0
  forever
    move 10 steps
    if on edge, bounce
    if touching Paddle ?
      point in direction pick random -60 to 60
      change Score by 1
    if touching bottom ?
      broadcast end
      hide
      wait 1 secs
      stop all
```

Most games begin with a "Press Start" Screen

In this example the player must click a button to start the game. Simple instructions are provided. You can also provide other details like history, high scores, or different difficulties.



HOW TO ... Start a game

Start

Add sprites and backgrounds

Starter Code Samples

Create a background



Add a Start Button Sprite



Update the rest of the game

On each Sprite, replace **When Green Flag Clicked** with **When I receive Start**

Use **When Green Flag Clicked** to hide the sprite



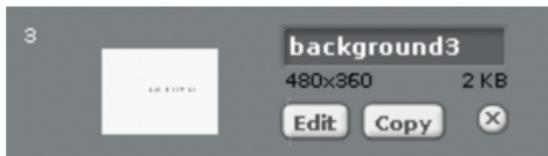
Try it

Click the green flag to start



Tell the play when the game is over.
Ask if they want to play again.

With a new background and a few code changes you can add a better ending to a game.



HOW TO ... End a Game

Start

Add one new background

Starter Code Samples

1) When the game ends, switch the background:

```
when I receive end
switch to background background3
```

2) Update other Sprites as needed.



```
when I receive end
show
```

3) Update the end of game conditions to Broadcast the END!

```
when I receive start
hide
wait 2 secs
go to x: 0 y: 215
show
point in direction pick random 160 to 200
set Score to 0
forever
  move 10 steps
  if on edge, bounce
  if touching Paddle
    point in direction pick random -60 to 50
    change Score by 1
  if touching bottom
    broadcast end
    hide
    wait 1 secs
    stop all
```

A wait might be needed to give the code time to run.

Try it

Click the green flag to start



Resources

- Online version of the project is: bit.ly/39AyqRD
- Replay, sample code and handouts will be at:
<https://booleangirl.org/full-stem-ahead/past/>

Challenges

- Update your own game adding some features from today.
- Search Scratch for inspiration for a new game.



<https://booleangirl.org>

Welcome to PONG!

Use the right and left arrow
keys to move the paddle
and hit the ball back

