

Boolean Girl Full STEM Ahead Episode 19: FROGGER

Before we begin, Open Scratch



On a Boolean Box

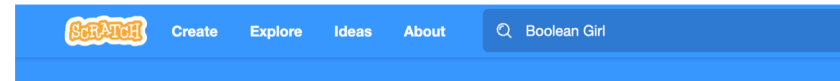


1. Open Scratch
2. Go to file, upload from your computer
3. Locate your USB drive with the file frogger2start.sb
4. Open it
5. Do a save as to save the file on your Raspberry Pi

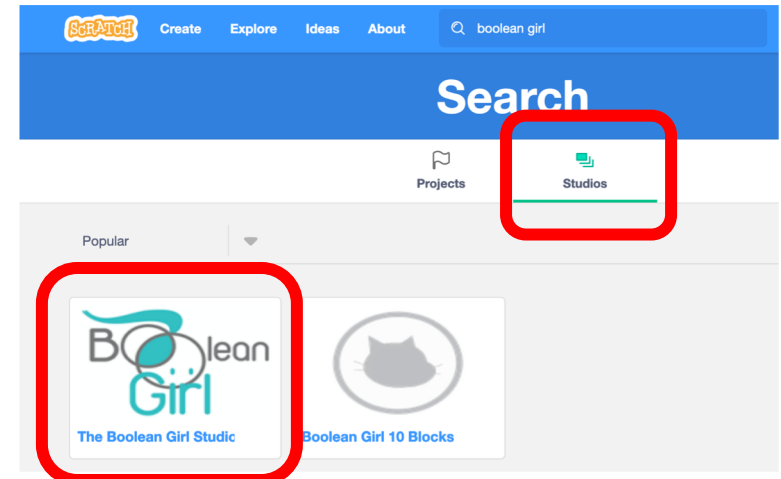
On the web: bit.ly/39AygRD

OR

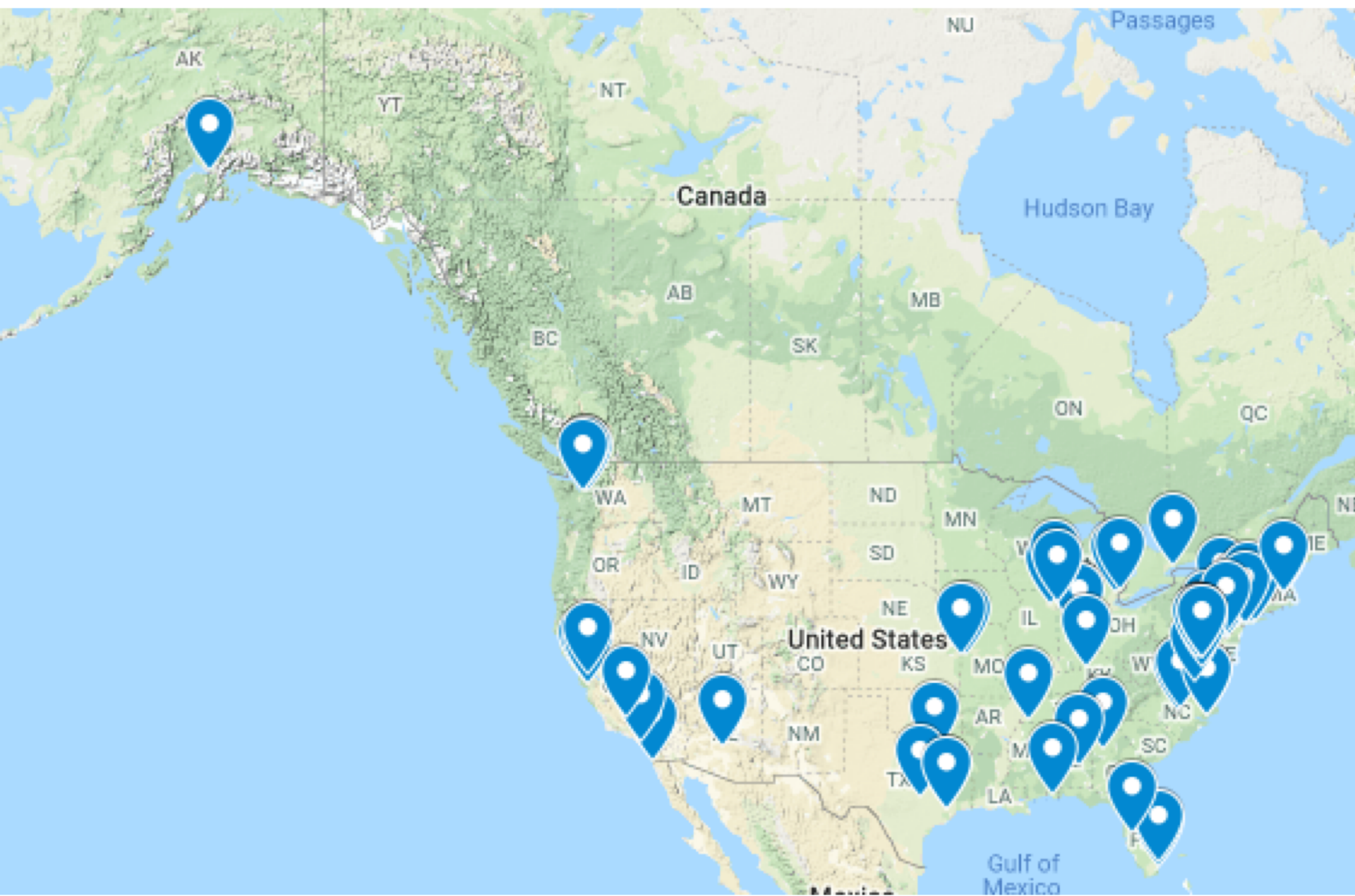
1. On the web go to: <https://scratch.mit.edu/>



2. Search for "Boolean Girl"
3. Open the Boolean Girl Studio



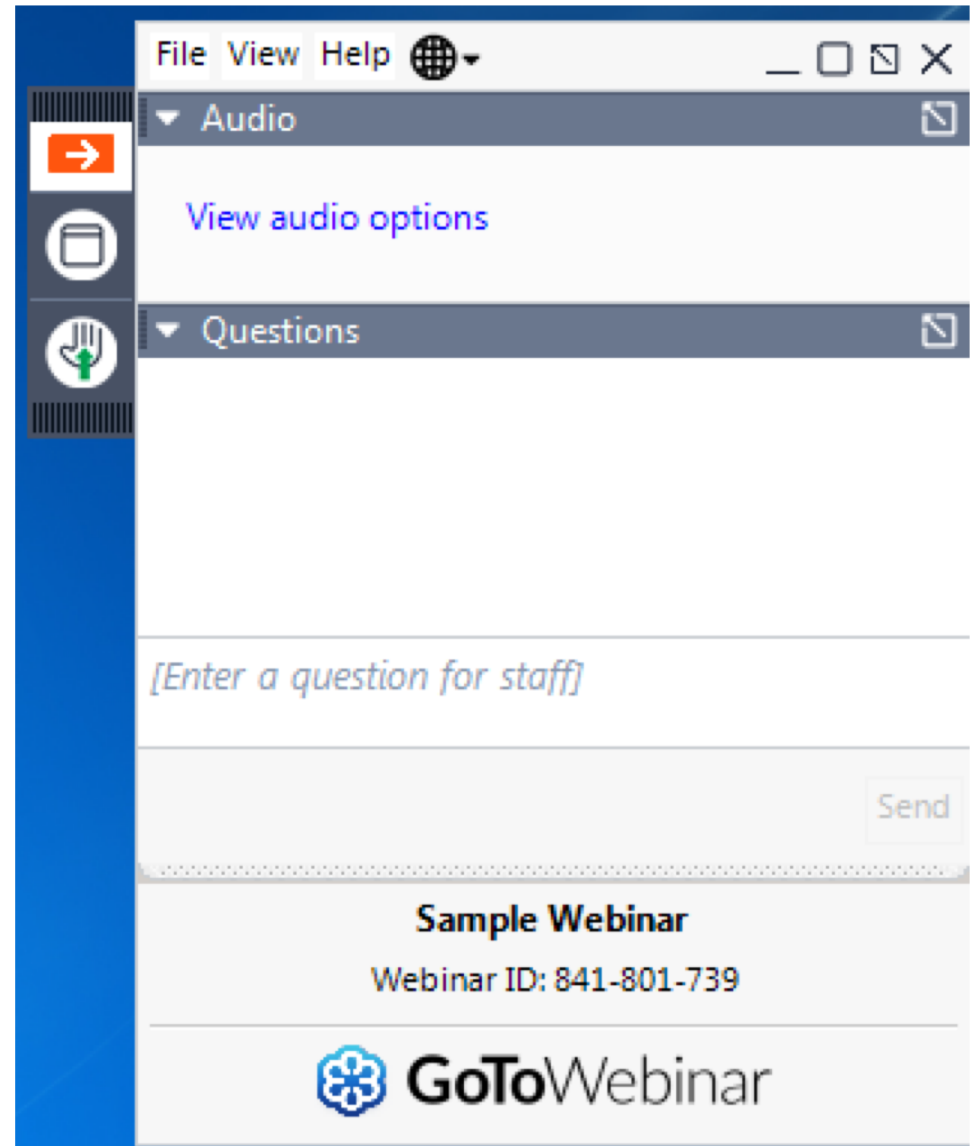
4. Open Boolean Girl **frogger2start**



Raise Hand



Ask Question



when up arrow key pressed

change y by 54

when down arrow key pressed

change y by -54

when left arrow key pressed

change x by -50

when right arrow key pressed

change x by 50

when up arrow key pressed

change y by 54

when down arrow key pressed

change y by -54

when left arrow key pressed

change x by -50

when right arrow key pressed

change x by 50

when clicked

set size to 44 %

set Turns to 1

go to x: 0 y: -160

when up arrow key pressed

change y by 54

when down arrow key pressed

change y by -54

when left arrow key pressed

change x by -50

when right arrow key pressed

change x by 50

when clicked

set size to 44 %

set Turns to 1

go to x: 0 y: -160

forever

if touching GreenCar ?

broadcast LostATurn

if touching BlueTruck ?

broadcast LostATurn

if touching PinkTruck ?

broadcast LostATurn

if touching Sprite2 ?

broadcast LostATurn

when up arrow key pressed

change y by 54

when down arrow key pressed

change y by -54

when left arrow key pressed

change x by -50

when right arrow key pressed

change x by 50

when clicked

set size to 44 %

set Turns to 1

go to x: 0 y: -160

forever

if touching GreenCar ?

broadcast LostATurn

if touching BlueTruck ?

broadcast LostATurn

if touching PinkTruck ?

broadcast LostATurn

if touching Sprite2 ?

broadcast LostATurn

if y position > 130

broadcast Win

when up arrow key pressed
change y by 54

when down arrow key pressed
change y by -54

when left arrow key pressed
change x by -50

when right arrow key pressed
change x by 50

when clicked
set size to 44 %
set Turns to 1
go to x: 0 y: -160
forever
if touching GreenCar ?
broadcast LostATurn
if touching BlueTruck ?
broadcast LostATurn
if touching PinkTruck ?
broadcast LostATurn
if touching Sprite2 ?
broadcast LostATurn
if y position > 130
broadcast Win

when I receive LostATurn
if Turns < 3
say TRY AGAIN
wait 1 secs
say I
go to x: 0 y: -160
change Turns by 1
else
say GAME OVER
broadcast GameOver
when I receive Win
say YOU WON!!!!
go to x: 0 y: 0
repeat 100
change color effect by 25

Sprite1
x: 0 y: -52 direction: 90
Scripts Costumes Sounds

```
when up arrow key pressed  
change y by 54
```

```
when down arrow key pressed  
change y by -54
```

```
when left arrow key pressed  
change x by -50
```

```
when right arrow key pressed  
change x by 50
```

```
when I receive LostATurn  
if Turns < 3  
  say TRY AGAIN  
  wait 1 secs  
  say I  
  go to x: 0 y: -160  
  change Turns by 1  
else  
  say GAME OVER  
  broadcast GameOver
```

```
when I receive Win  
say YOU WON!!!!  
go to x: 0 y: 0  
repeat 100  
  change color effect by 25
```

```
when clicked  
set size to 44 %  
set Turns to 1  
go to x: 0 y: -160  
forever  
  if touching GreenCar ?  
    broadcast LostATurn  
  if touching BlueTruck ?  
    broadcast LostATurn  
  if touching PinkTruck ?  
    broadcast LostATurn  
  if touching Sprite2 ?  
    broadcast LostATurn  
  if y position > 130  
    broadcast Win
```

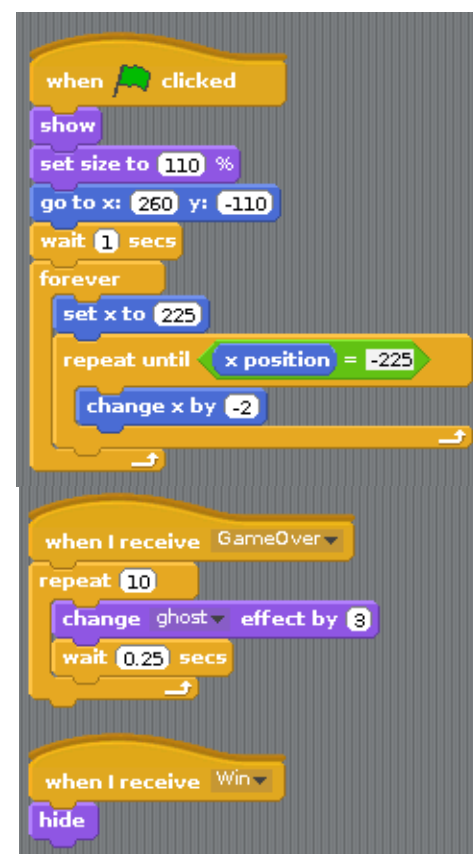
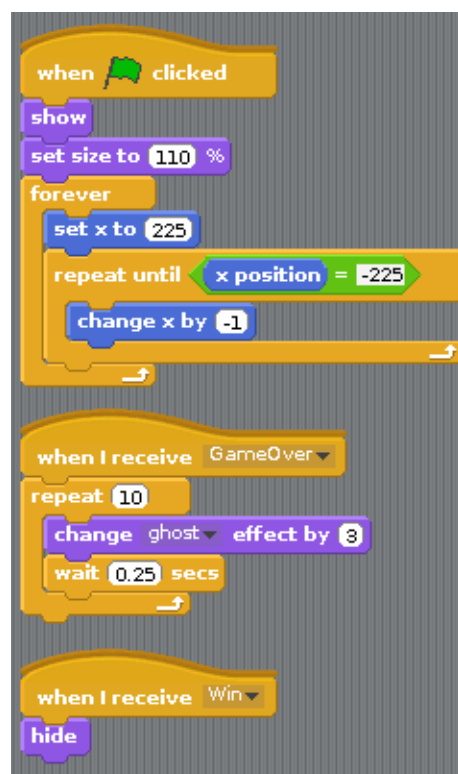
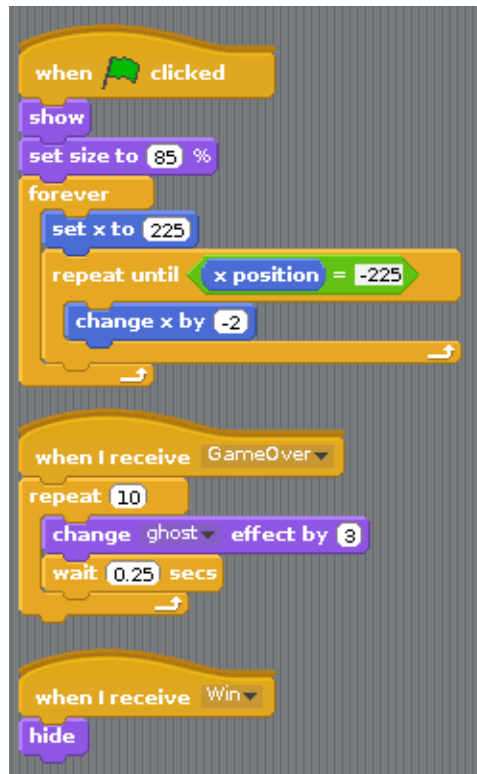
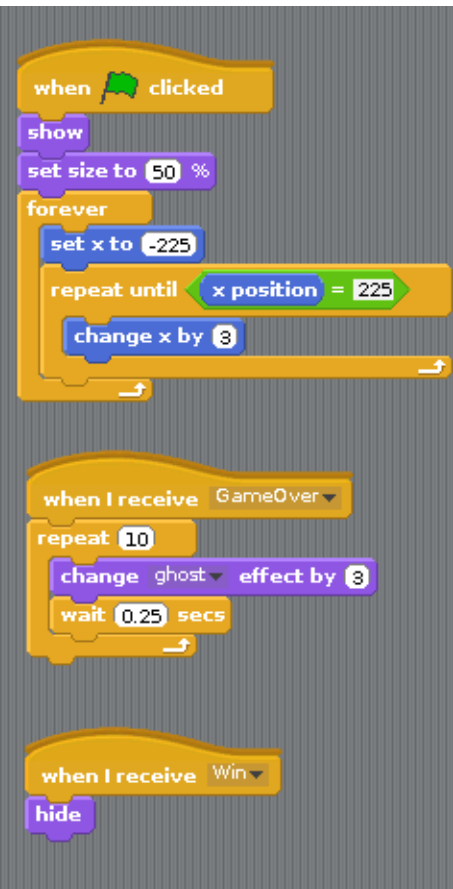
frogger2



x: -1994 y: 98

Sprite1 GreenCarPinkTruck
BlueTruck Sprite2

Stage





File Edit Share Help



GreenCar



x: -60 y: -60 direction: 90

Scripts

Costumes

Sounds

when green flag clicked

show

set size to 50 %

forever

set x to -225

repeat until x position = 225

change x by 3

when I receive GameOver

repeat 10

change ghost effect by 3

wait 0.25 secs

when I receive Win

hide

frogger2



x: -1086 y: 64



Sprite1



GreenCar



PinkTruck



BlueTruck



Sprite2



Stage



File Edit Share Help



PinkTruck



x: -209 y: 50 direction: 90

Scripts

Costumes

Sounds

when green flag clicked

show

set size to 85 %

forever

set x to 225

repeat until x position = -225

change x by -2

when I receive GameOver

repeat 10

change ghost effect by 3

wait 0.25 secs

when I receive Win

hide

frogger2



x: -1300 y: 322



Sprite1



GreenCar



PinkTruck



BlueTruck



Sprite2



Stage

File Edit Share Help

BlueTruck

x: -3 y: -2 direction: 90

Scripts Costumes Sounds

when green flag clicked

show

set size to 110 %

forever

set x to 225

repeat until x position = -225

change x by -1

when I receive GameOver

repeat 10

change ghost effect by 3


wait 0.25 secs

when I receive Win

hide

frogger2

Turn



x: -2064 y: 322

Sprite1 GreenCarPinkTruck

BlueTruck

Sprite2

Stage

File Edit Share Help

Sprite2

x: -115 y: -110 direction: 90

Scripts Costumes Sounds

when green flag clicked

show

set size to 110 %

go to x: 260 y: -110

wait 1 secs

forever loop

set x to 225

repeat until x position = -225

change x by -2

when I receive GameOver

repeat 10

change ghost effect by 3

wait 0.25 secs

when I receive Win

hide

frogger2

x: -1262 y: 296

Stage



Students in congressional districts submit original apps for a chance to win the Congressional App Challenge (CAC).

- Winners are publicly recognize by their Representative and each winning app may be put on display in the U.S. Capitol Building for one year.
- Sometimes this includes a trip to the Capital
- Additional prizes may be available.

Pre-registration will ensure students receive updates about the 2020 Challenge, here: <https://www.congressionalappchallenge.us/students/student-registration/>

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

- Finish the game on your own
- Update your own game adding some features from prior lessons.
- Search Scratch for inspiration for a new game.



<https://booleangirl.org>