EXPLORERS

CoderDojo Athenry

CoderDojo Athenry
"Above all, be cool"

Every week:
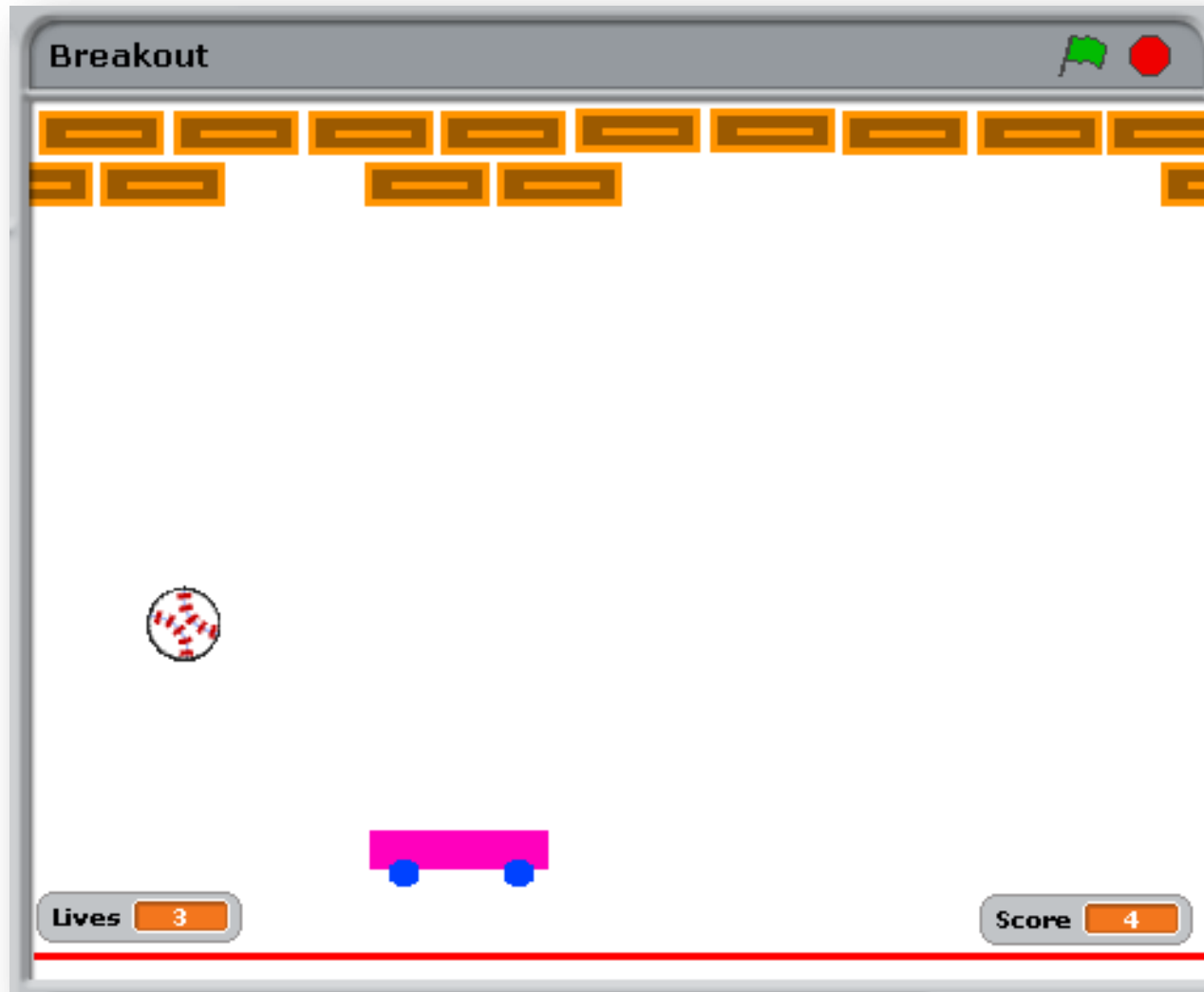- ✓ Sign in at the door

If you are new:
- ✓ Fill in Registration Form
- ✓ Ask a Mentor how to get started

Make sure you are on the Athenry Parents/Kids Google Group: email coderdojoathenry@gmail.com

Today's Ninja Challenge:
Make a Game Like Breakout

Use **Big Ideas** that You Should Understand to Get a Yellow Belt

Making Sprites Move

Loops & Decisions

Animation & Sound

Variables & Broadcasts

Steps to Make the Game

Make the **Bat** sprite,
write & test code to control it

Make the **Ball** sprite,
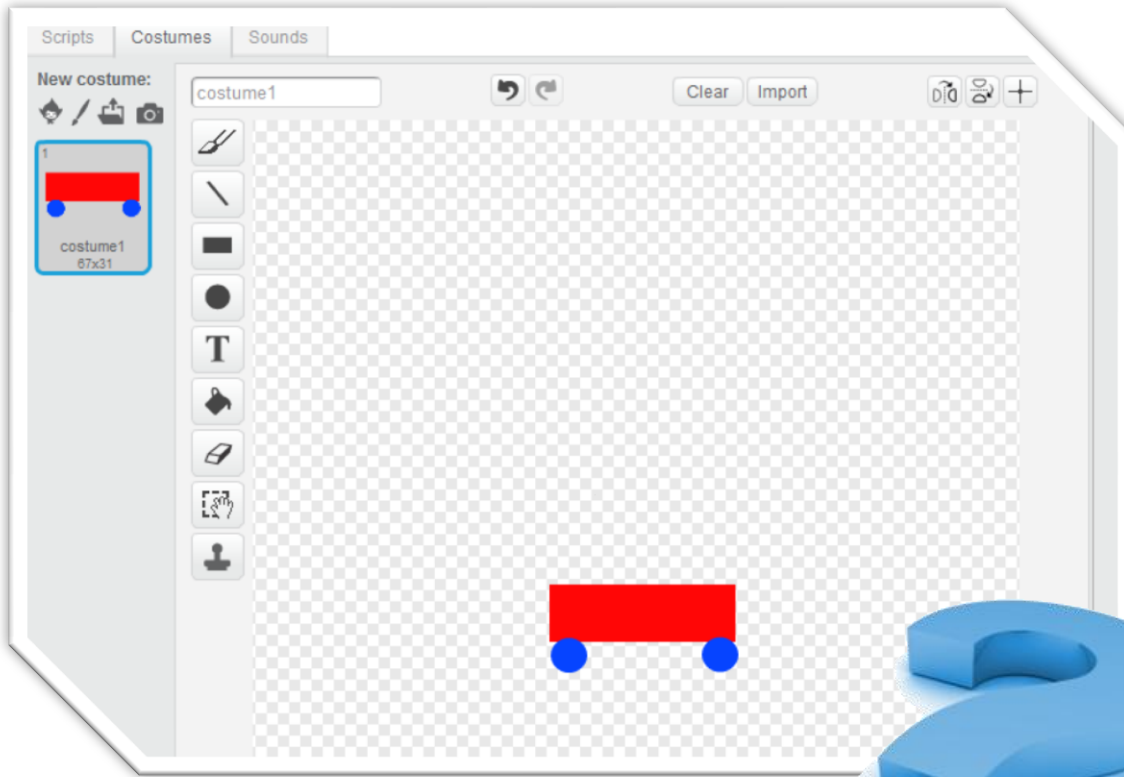write code to make it move & animate

Add an **End Line** and a **Lives** variable;
Lose a live when ball hits line

Make a **Brick** sprite, write its code;
Test it works then **duplicate** it
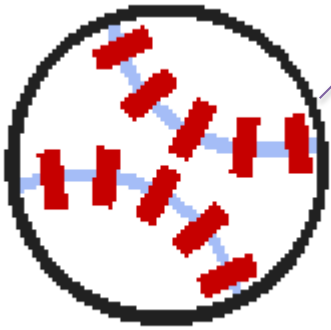
Your game will have slightly different steps.

Get one part working before moving on!
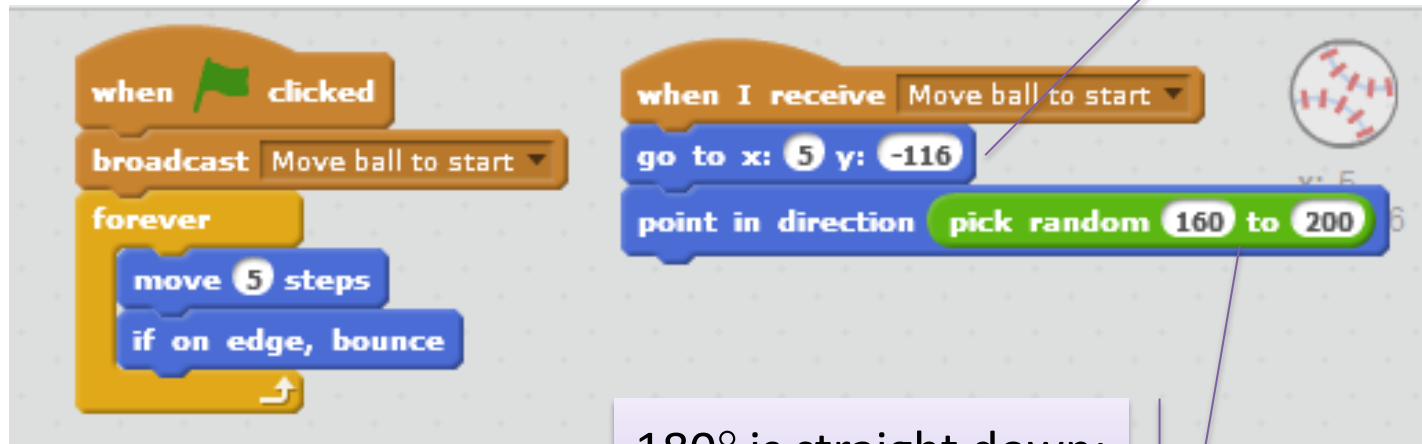
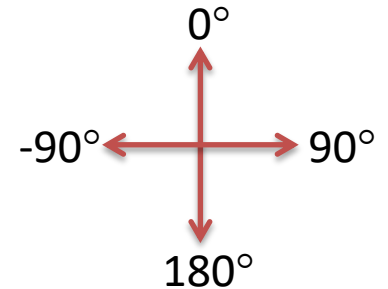# Design the Bat Sprite
& Code So You Control it

Scripts | Costumes | Sounds

New costume:
costume1

costume1
67x31

Clear Import

when ⚑ clicked
forever
    set x to mouse x

x: -12
y: -154

How would you control it with arrows instead?

Make the Ball Sprite
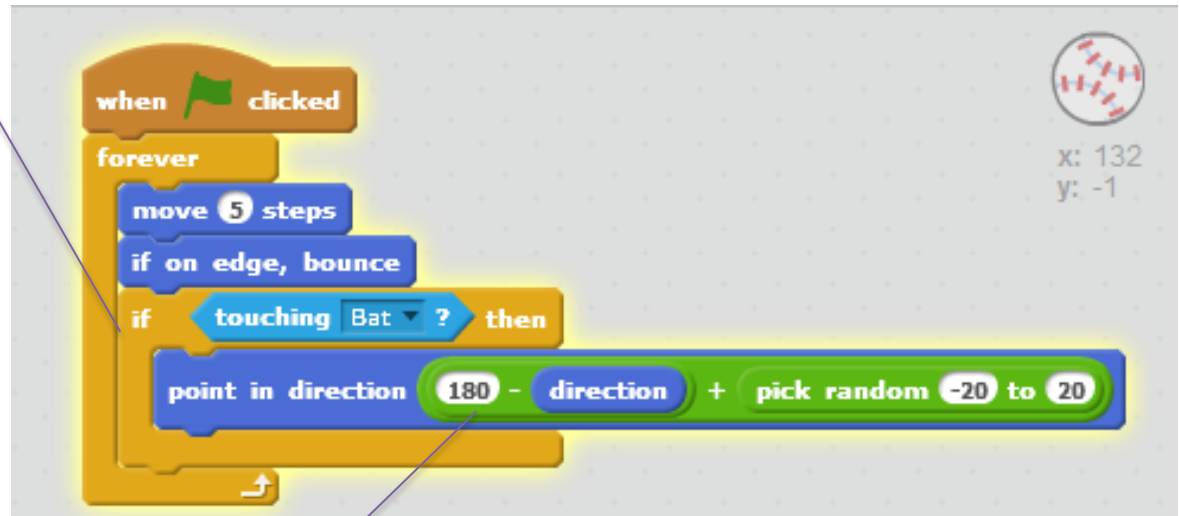# & Basic Code to Move it

I used a standard image

0°

-90° ⟷ 90°

180°

Will use this to reset position after losing a life

```
when 🏳 clicked
broadcast Move ball to start ▼
forever
    move 5 steps
    if on edge, bounce
```

```
when I receive Move ball to start ▼
go to x: 5 y: -116
point in direction ( pick random 160 to 200 )
```

180° is straight down: pick direction in range 180 ±20

Code for the Ball Sprite to Bounce off the Bat

New block of code to bounce off bat

```
when [green flag] clicked
forever
    move 5 steps
    if on edge, bounce
    if  touching Bat ? then
        point in direction  180 - direction + pick random -20 to 20
```

x: 132
y: -1

180° – Direction is opposite direction; add some randomness
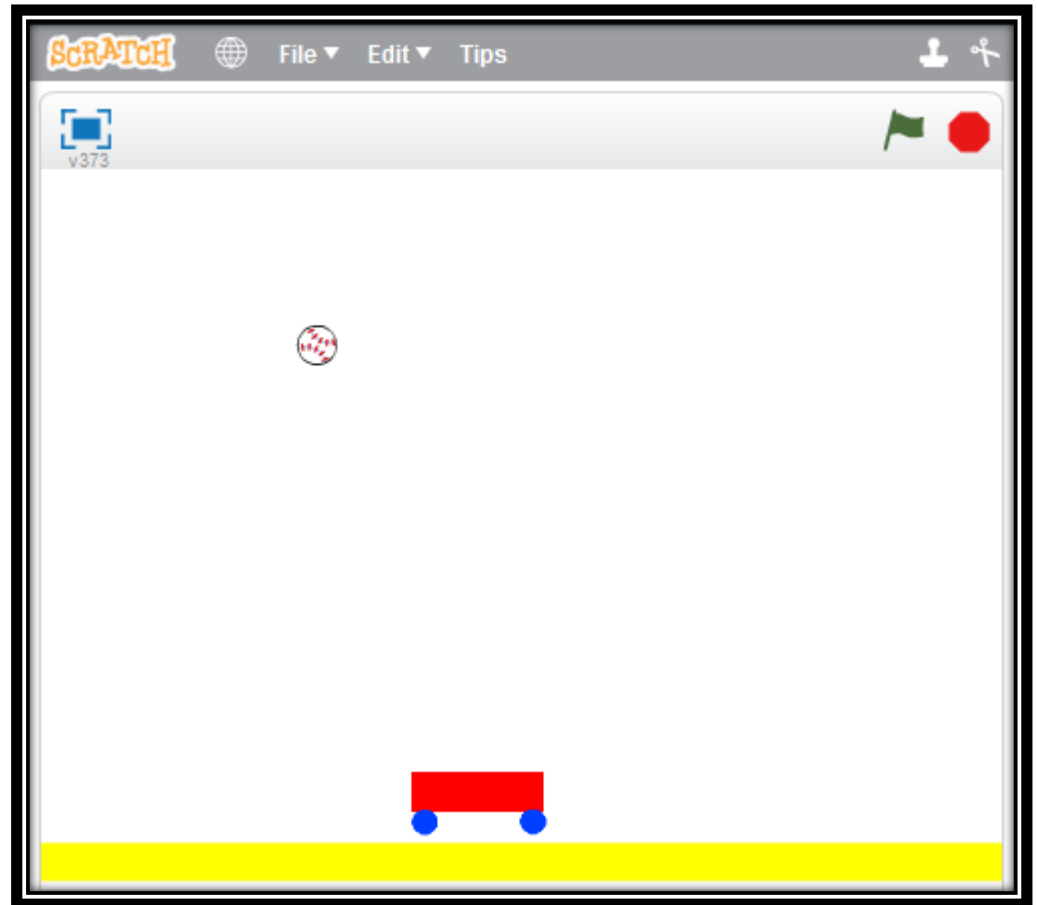
Animate the Ball
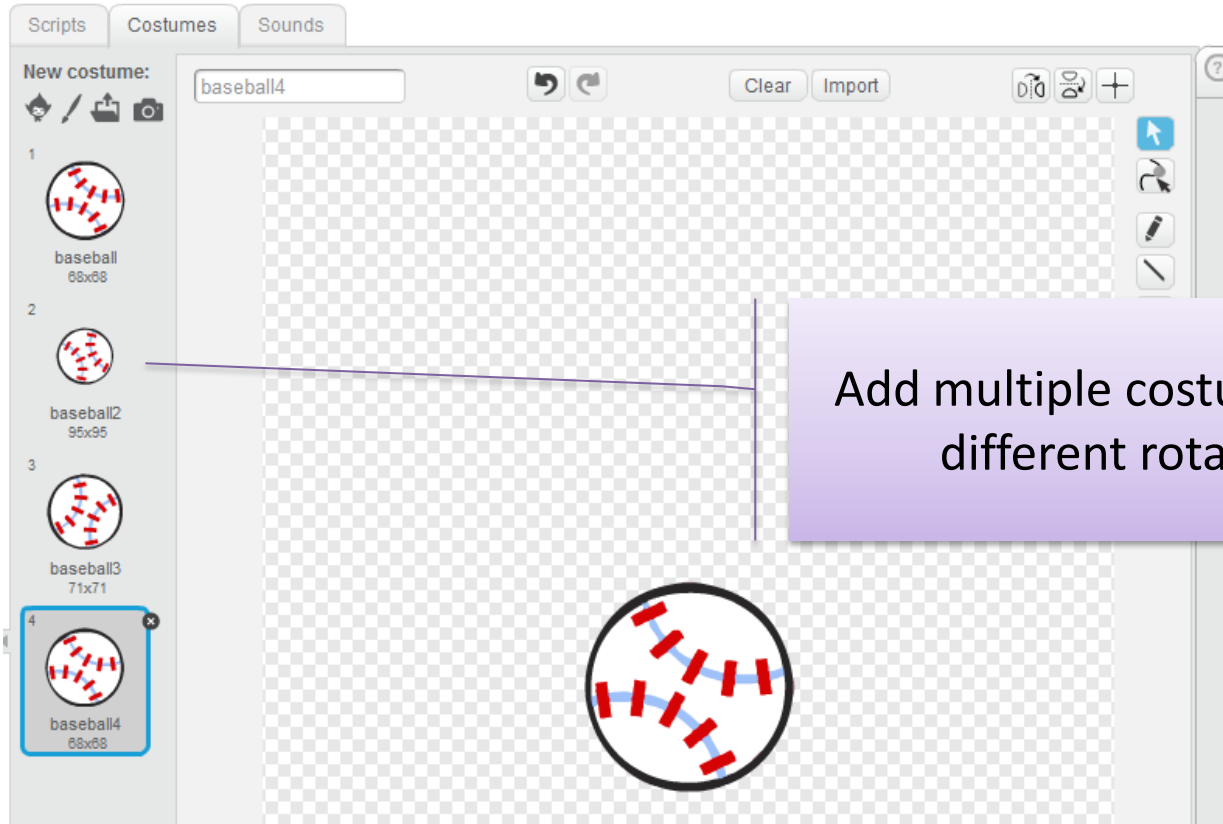
Add multiple costumes with different rotations

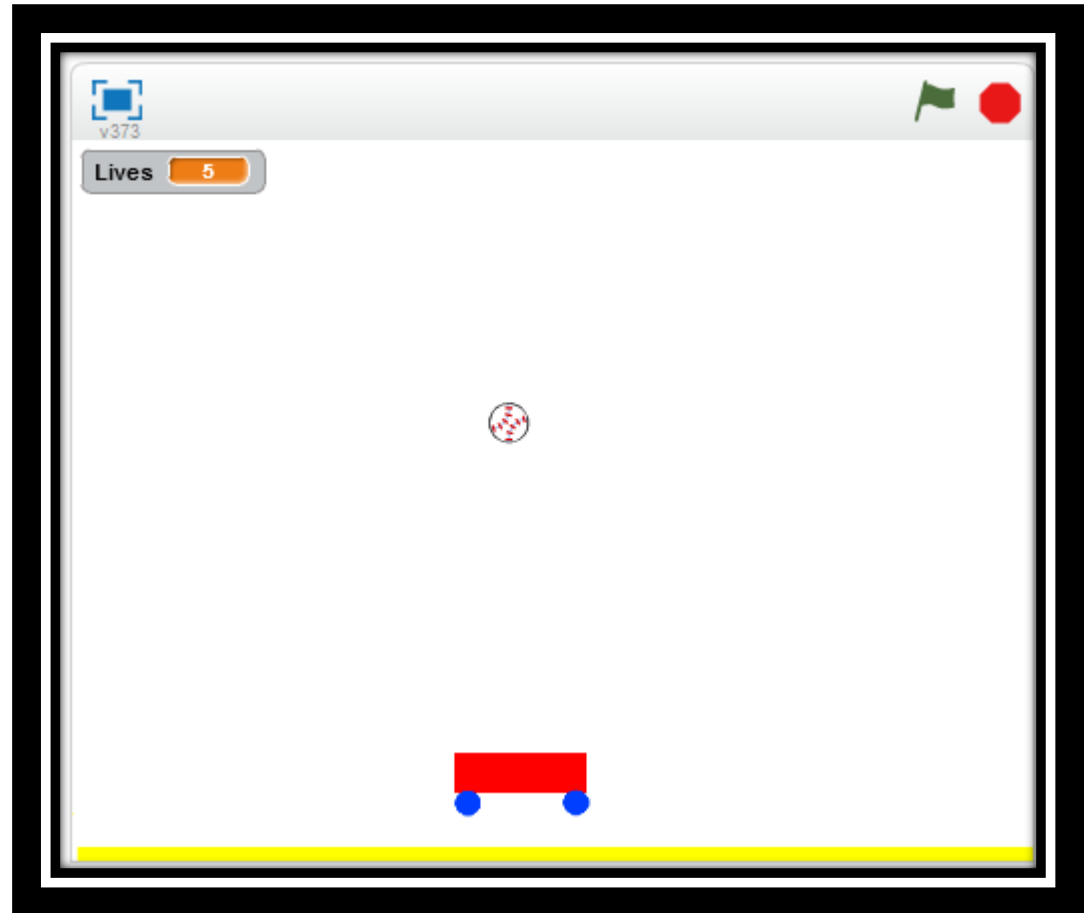Keep switching between costumes: how can you do this?

Add an End Line

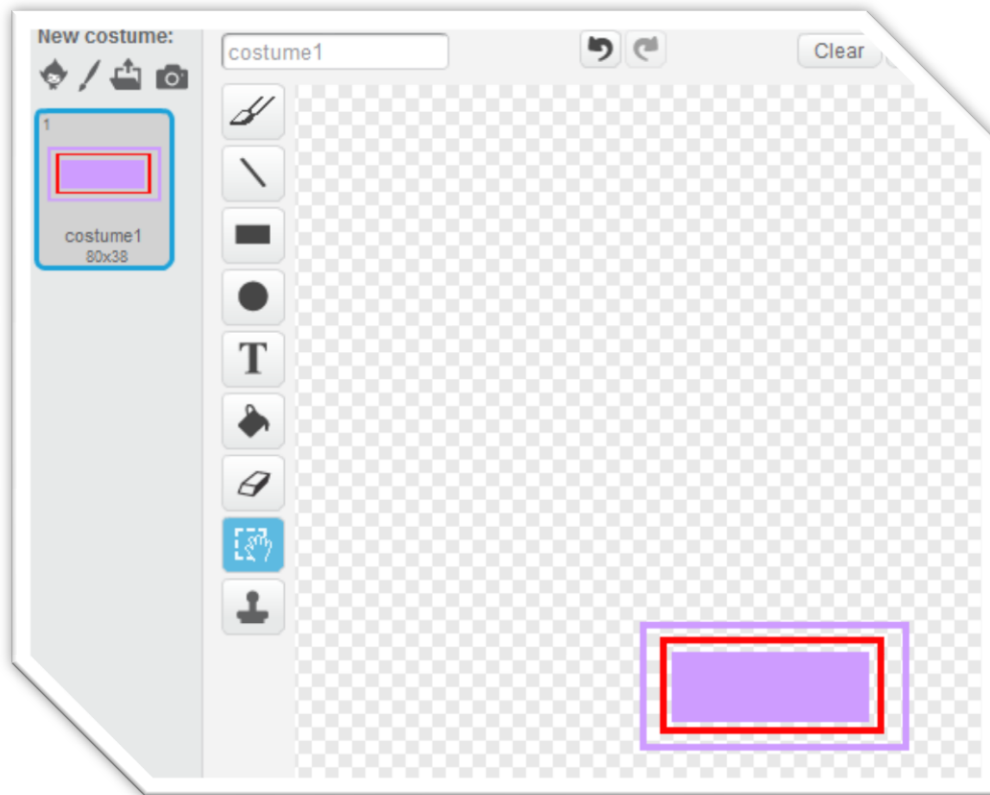End Line:
Add Sprite
Or
Draw on Stage

Keep Track of Lives

•Variables for Lives

•Start with Lives =5
•Stop if Live = 0

•Reduce Lives by 1
•If Ball touches End Line

•Reset position of ball

Lives 5

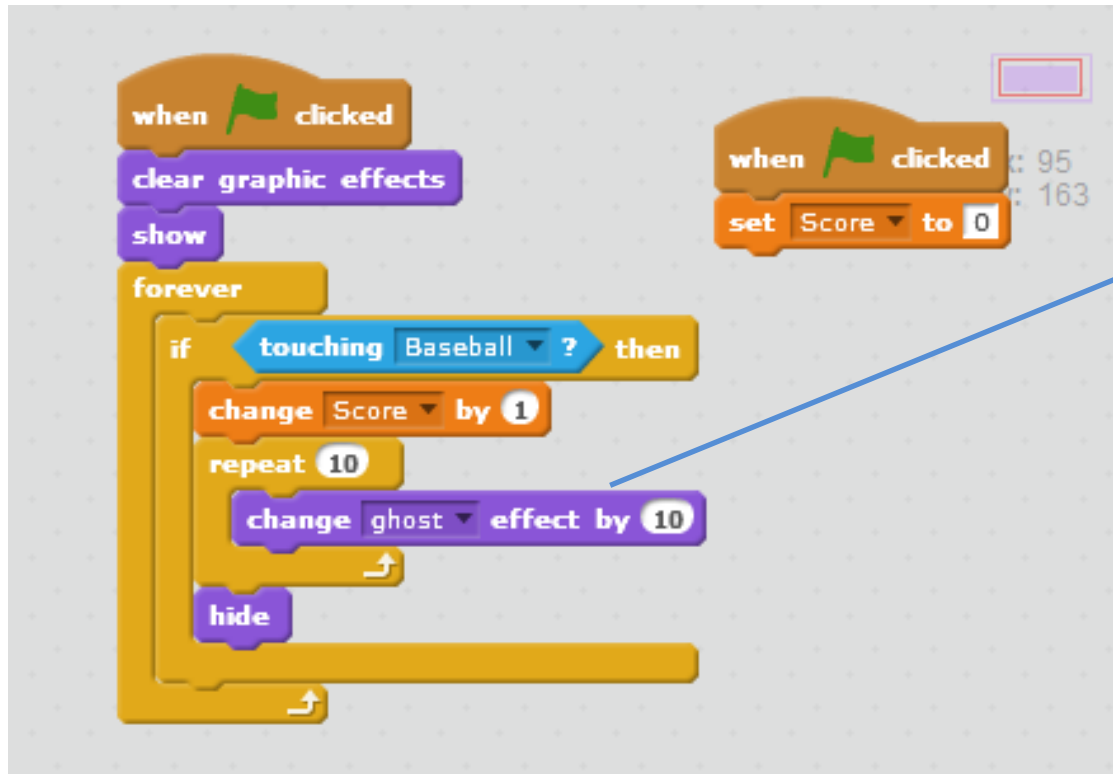# Add a Music Loop

Design & Code a **Single Brick**

Need a variable for Score
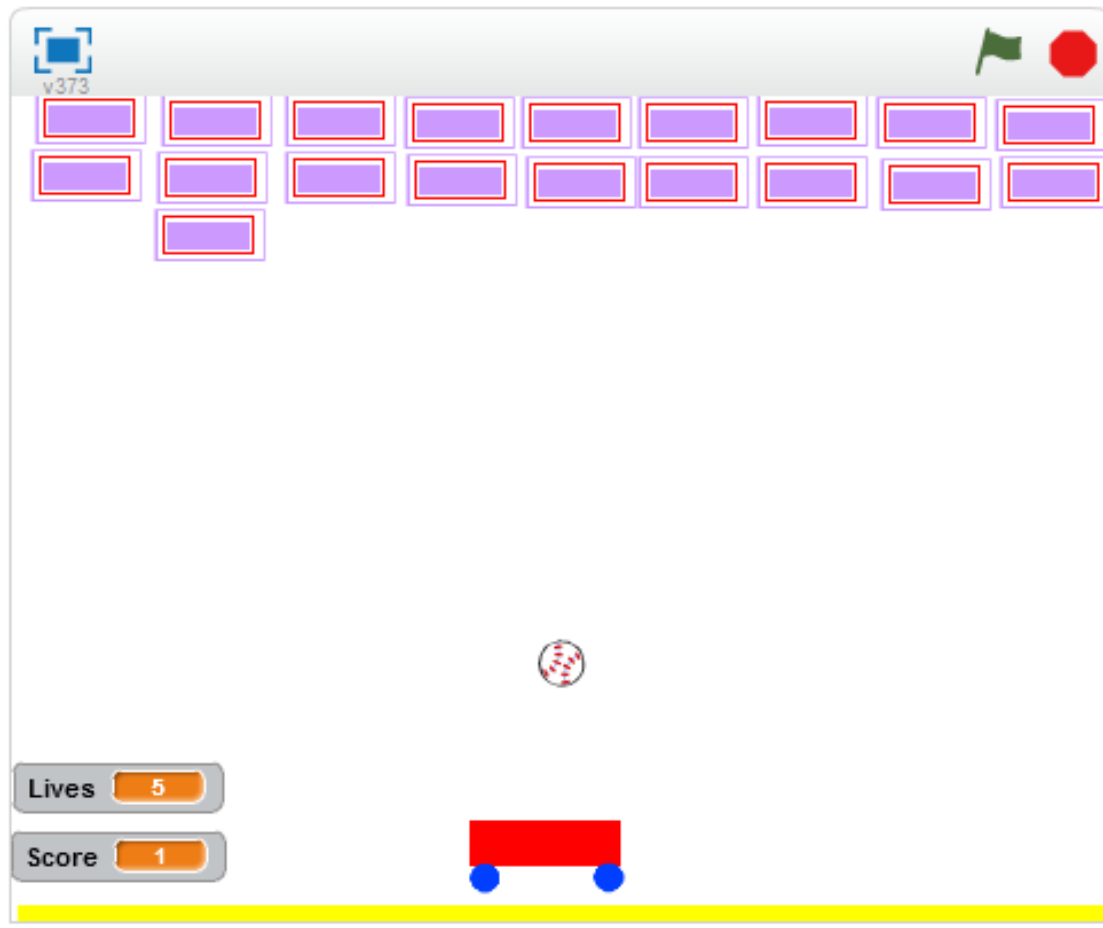
Need code for **Ball** when it receives broadcast:

Make a sound effect, Bounce off brick (copy code for bouncing off bat)

Design & Code a Single Brick

when [flag] clicked
clear graphic effects
show
forever
  if touching Baseball ? then
    change Score by 1
    repeat 10
      change ghost effect by 10
    hide

when [flag] clicked   : 95
set Score to 0   : 163

Make it fade slowly

Test the Single Brick & Duplicate it When You're Sure it Works

At the End …

Upload your project to the Scratch Website
user: **cdathenry**   password: **xxxxxxx**

Access it
from home ✓

Improve it ✓

Show your
friends! ✓

Uploading to Scratch Website