A Breakout Game Created in Scratch

http://cs.oregonstate.edu/~mjb/scratch

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Events

- when clicked
- when space key pressed
- when this sprite clicked
- when backdrop switches to backdrop1
- broadcast message1
- when I receive message1
Data

Make a Variable

- Speed
- set Speed \downarrow \text{ to } 0
- change Speed \downarrow \text{ by } 1
Control

wait 1 secs

repeat 10

when I start as a done

forever

create clone of myself

if then

delete this clone

if then

else

wait until

repeat until
Sensing

- touching mouse-pointer
- touching edge
- touching color
- distance to mouse-pointer
- key space pressed?
- mouse down?
- mouse x
- mouse y
- x position of Sprite1
- y position of Sprite1
- direction of Sprite1
- size of Sprite1
move 10 steps

turn (15 degrees)

turn (15 degrees)

point in direction 90°

point towards mouse-pointer

go to mouse-pointer

go to random position

change x by 10

change y by 10

set x to 0

set y to 0

if on edge, bounce
Scratch Handles the Directions you are Going Like a Compass Does

0
360
-360

N

315
-45

W

270
-90

S

180
-180

E

90
-270

45
-315

225
-135

135
-225
Three Actors

Displaying Data Variables

Three Actors
Paddle: change the ball speed, number of balls, and number of bricks

When the program starts, set some good values into the variables, get everyone else going, then have the Paddle continuously follow the mouse pointer.

The 'q' key can end the game.
Bricks: change where the bricks are located (you can also change their size)

- Create the bricks to start with
- Test to see if you've won

When I receive CreateBricks:
  - show
  - repeat BricksLeft:
    - create clone of Button3
    - hide
  - wait until BricksLeft = 0
  - broadcast YouWin

Position each brick in a random location. Then, wait for the Ball to hit the brick. When it does, decrease the brick count, bounce the Ball (which will result in a pop sound), and delete this brick.

When I start a game:
  - go to x: pick random -240 to 240, y: pick random 50 to 180
  - forever
    - wait until touching Ball
    - set BricksLeft to BricksLeft - 1
    - broadcast BounceBall
    - delete this clone
Ball: change where the ball launches from and what happens when you win
Ball: change how fast or slow the ball can move and what happens when you lose