

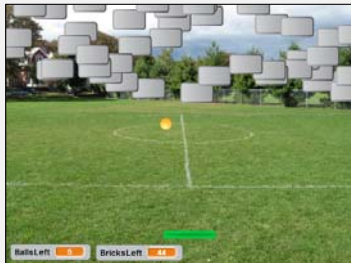
## A Breakout Game Created in Scratch

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

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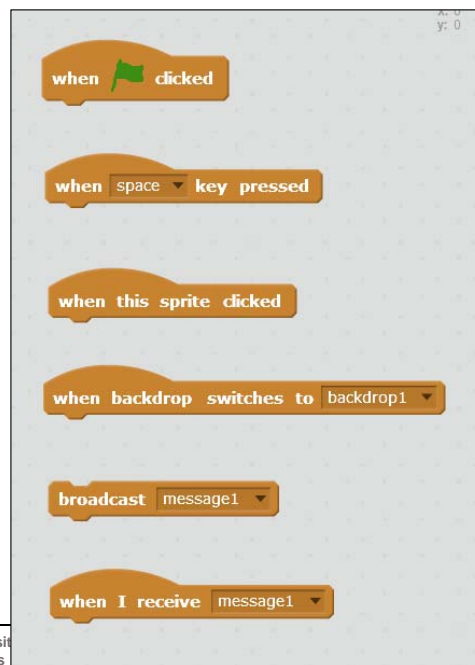
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### Events

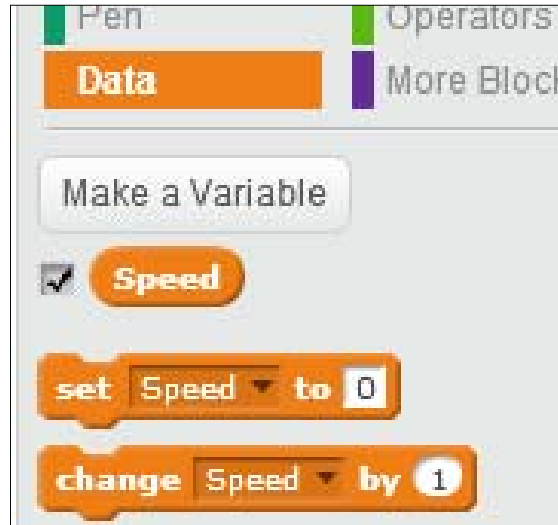
2  
2



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## Data



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## Control

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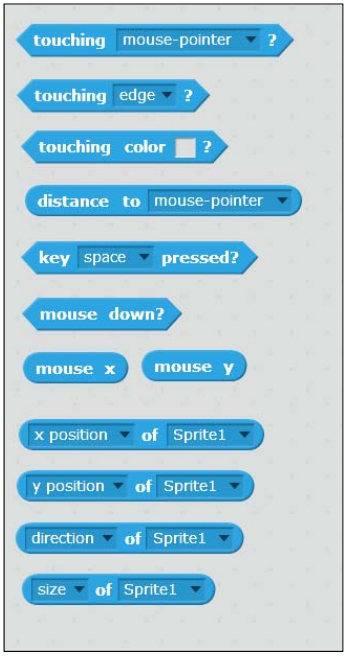


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### Sensing



The Sensing block palette contains the following blocks:

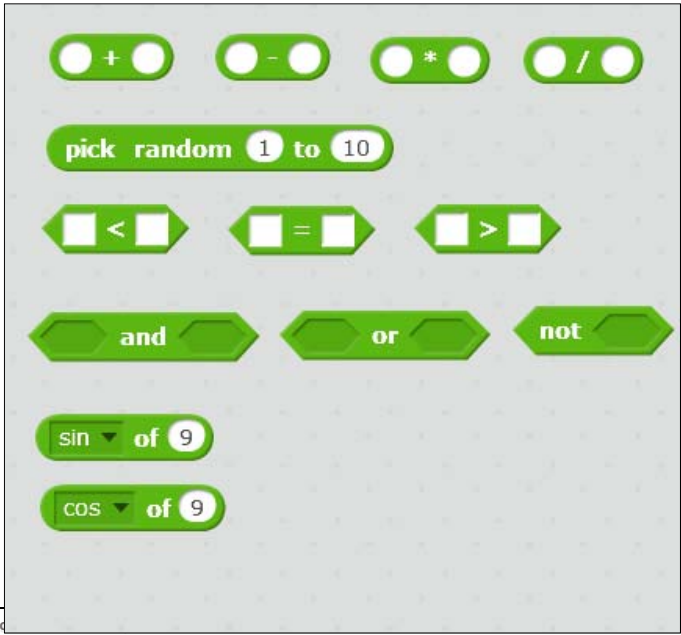
- touching mouse-pointer ?
- touching edge ?
- touching color ?
- distance to mouse-pointer
- key space pressed?
- mouse down?
- mouse x mouse y
- x position of Sprite1
- y position of Sprite1
- direction of Sprite1
- size of Sprite1

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### Operators



The Operators block palette contains the following blocks:

- + - \* /
- pick random 1 to 10
- < = >
- and or not
- sin of 9
- cos of 9

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**Motion** 7

The Motion block palette contains the following blocks:

- move 10 steps
- turn 15 degrees (left and right)
- 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

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The image shows three Scratch block palettes:

- Events:**
  - when green flag clicked
  - when space key pressed
  - broadcast message1
  - when I receive message1
- Variables:**
  - Make a Variable
  - ☒ Speed
  - set Speed to 0
  - change Speed by 1
- Logic:**
  - when I start as a done
  - create done of myself
  - delete this done

Below these are additional blocks:

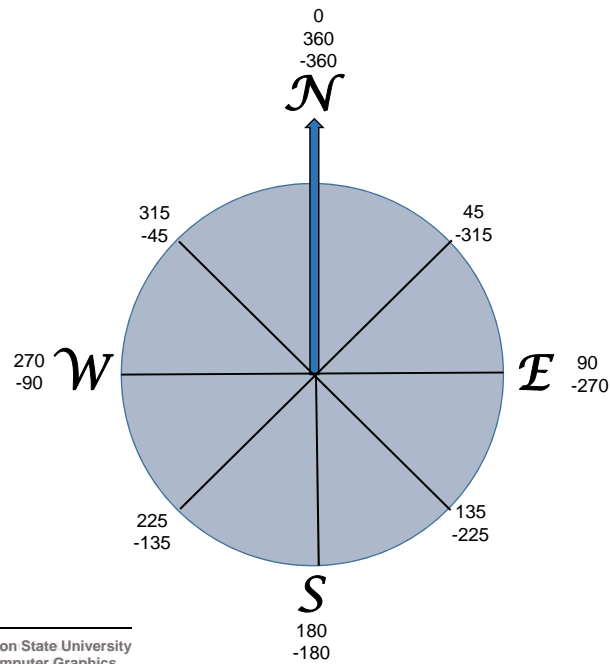
- touching mouse-pointer?
- key space pressed?
- mouse x
- mouse y

At the bottom right, a separate palette shows:

- move 10 steps
- turn 15 degrees (left and right)
- point in direction 90
- if on edge, bounce
- Math blocks: +, -, \*, /
- pick random 1 to 10
- Comparison blocks: <, =, >

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### Scratch Handles the Directions you are Going Like a Compass Does



### Three Actors



## Paddle

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



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## Bricks

Create the bricks to start with



Test to see if you've won



x: -57  
y: 31

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.

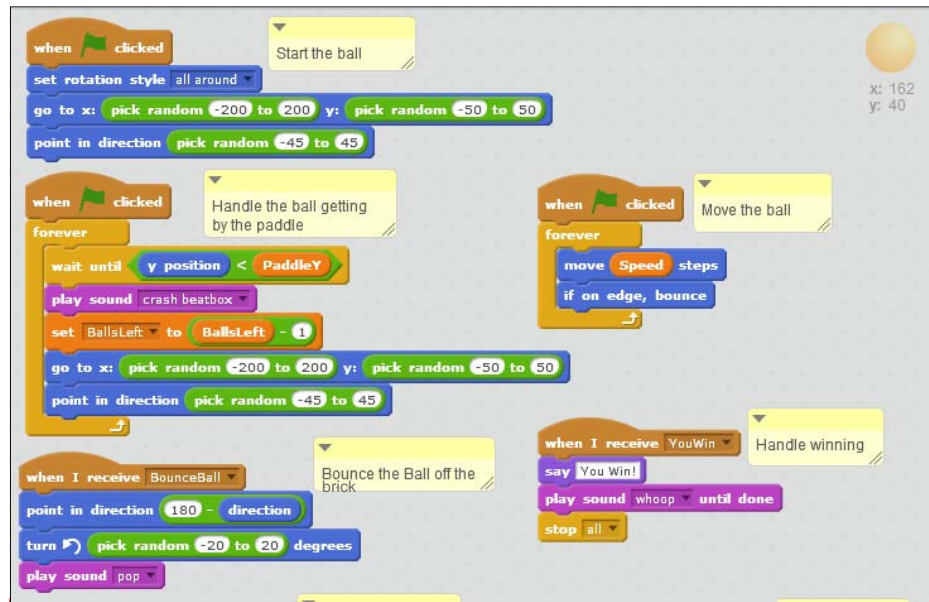


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## Ball -- top



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## Ball -- bottom



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