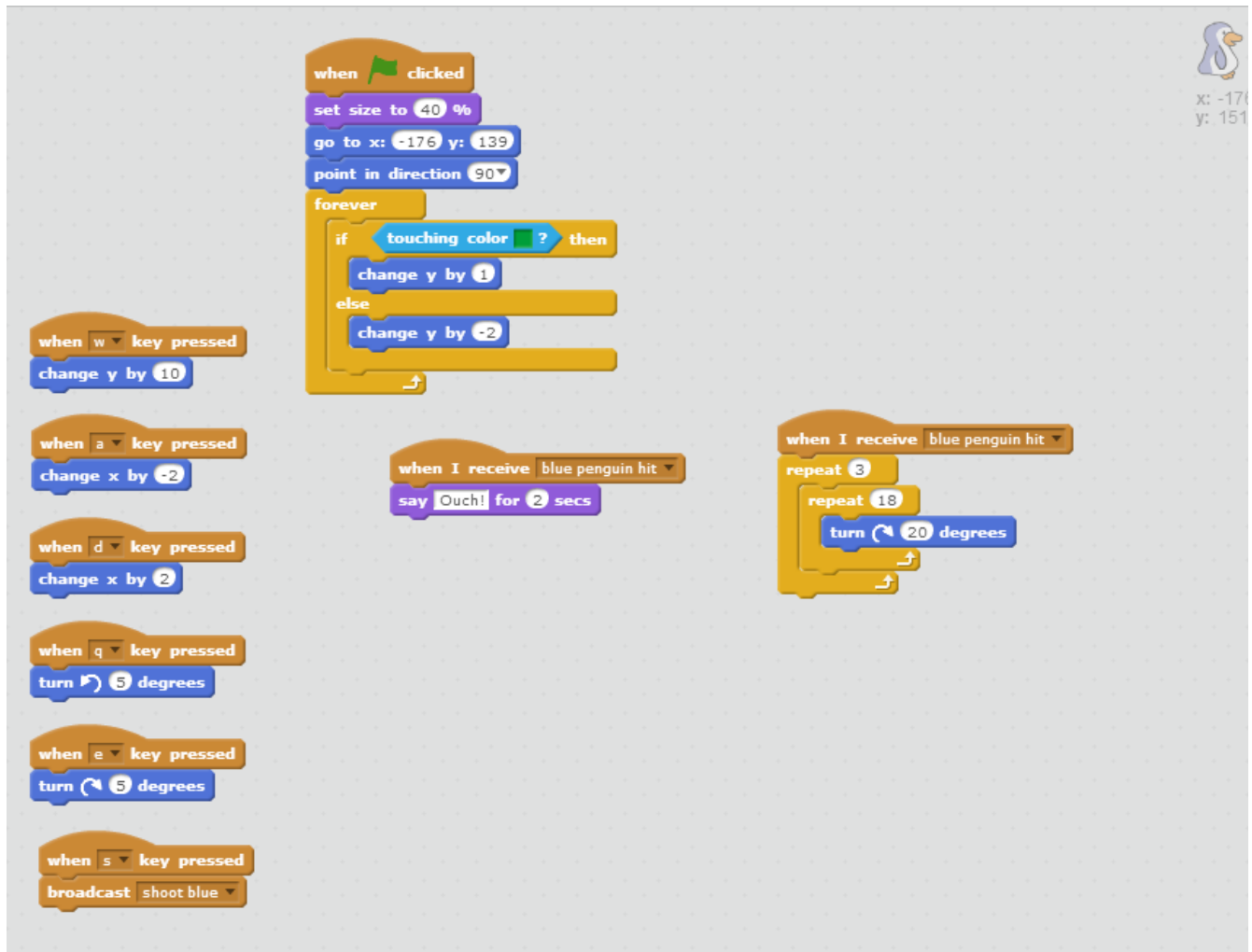


Penguin Battle project guide

Blue Penguin:



The image shows a Scratch script for a blue penguin character. The script is organized as follows:

- Initialization:** A "when green flag clicked" event triggers a sequence of actions: "set size to 40 %", "go to x: -176 y: 139", and "point in direction 90".
- Movement:** A "forever" loop contains an "if touching color [red]?" block. If true, it "change y by 1"; if false, it "change y by -2".
- Key Controls:** A series of "when key pressed" events: "w" key pressed "change y by 10"; "a" key pressed "change x by -2"; "d" key pressed "change x by 2"; "q" key pressed "turn 5 degrees"; "e" key pressed "turn 5 degrees"; "s" key pressed "broadcast shoot blue".
- Collision Response:** A "when I receive blue penguin hit" event triggers a "say Ouch! for 2 secs" block.
- Hit Reaction:** A "when I receive blue penguin hit" event triggers a "repeat 3" loop containing a "repeat 18" loop with a "turn 20 degrees" block.

In the top right corner, there is a small penguin icon and its coordinates: x: -176, y: 139.

Red penguin (use drag and drop to copy over most of the code from the blue penguin):

The image shows a Scratch script for a red penguin character. The script is organized into several sections:


- Initialization:** When the green flag is clicked, the penguin's size is set to 40%, and it is moved to the coordinates (207, -88) and pointed in the direction of 90 degrees.
- Collision Detection:** A 'forever' loop contains an 'if' statement. If the penguin is touching a red color, its y-coordinate is increased by 1. Otherwise, its y-coordinate is decreased by 2.
- Key Pressed Actions:** Several 'when key pressed' blocks are arranged vertically:
 - When the 'i' key is pressed, the y-coordinate is increased by 10.
 - When the 'j' key is pressed, the x-coordinate is decreased by 2.
 - When the 'l' key is pressed, the x-coordinate is increased by 2.
 - When the 'u' key is pressed, the penguin turns 5 degrees to the right.
 - When the 'o' key is pressed, the penguin turns 5 degrees to the left.
 - When the 'k' key is pressed, a broadcast message 'shoot red' is sent.
- Hit Reaction:** Two 'when I receive red penguin hit' blocks are present. The first one says 'Ouch!' for 2 seconds. The second one is followed by a 'repeat' block that repeats 3 times, with an inner 'repeat' block that repeats 18 times, turning the penguin 20 degrees to the right.

In the top right corner, there is a small red penguin icon and the coordinates: x: 213, y: -80.

Blue seed:



Red seed (use drag and drop to copy most of the code from the blue seed):



The image shows a Scratch script for a red seed. The script is composed of several blocks:

- when clicked** block: A green flag icon.
- hide** block: A purple block.
- set size to 20 %** block: A purple block with the value 20.
- when I receive shoot red** block: An orange block with a dropdown menu set to "shoot red".
- go to red penguin** block: A blue block with a dropdown menu set to "red penguin".
- point in direction direction of red penguin + 180** block: A blue block with a dropdown menu set to "direction of red penguin" and a value of 180.
- switch costume to normal** block: A purple block with a dropdown menu set to "normal".
- go to front** block: A purple block.
- show** block: A purple block.
- forever** loop block: A yellow block containing:
 - move 5 steps** block: A blue block with the value 5.
 - if touching color ? then** block: A blue block with a dropdown menu set to "color".
 - switch costume to explode** block: A purple block with a dropdown menu set to "explode".
 - stamp** block: A green block.
 - hide** block: A purple block.
 - stop this script** block: An orange block with a dropdown menu set to "this script".
 - if touching blue penguin ? then** block: A blue block with a dropdown menu set to "blue penguin".
 - broadcast blue penguin hit** block: An orange block with a dropdown menu set to "blue penguin hit".
 - hide** block: A purple block.
 - stop this script** block: An orange block with a dropdown menu set to "this script".
 - if touching edge ? then** block: A blue block with a dropdown menu set to "edge".
 - hide** block: A purple block.
 - stop this script** block: An orange block with a dropdown menu set to "this script".

In the top right corner, the coordinates **x: -149** and **y: 163** are displayed.

Challenges

- make the seeds spin as they fly
- when seeds touch, they annihilate
- keep score
- use sensing for keys
- make super seed that blasts through walls and keeps going (you have to touch something to get the super seed power)
- make a version where the penguins are always moving in the direction they are facing, to simplify the controls