

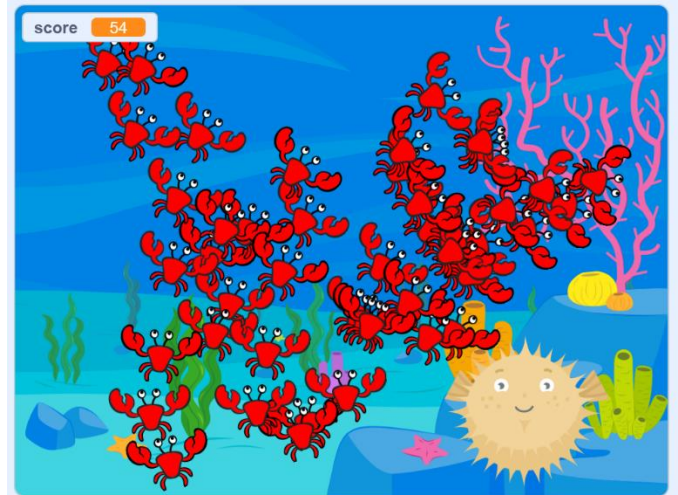
Scratch, day6: clone party

Due: 4th period, Tuesday 10/13/20 by midnight
3rd & 7th periods, Wednesday 10/14/20 by midnight

Today we're going to use a function in Scratch called cloning. When you clone a sprite it makes a copy that acts on its own until the Stop button is pressed.

Here's the big picture: One sprite follows the mouse pointer while another sprite has some kind of animation going, clones itself 100 times in random locations. All the clones slowly move towards the first sprite. When they touch the first sprite, the user gets a point. When the user gets 100 points the game is over.

Here's a screen shot of my project in action. See all the crabs going after the puffer fish?



To do all of this you will pick a fun background, then pick a fun sprite that goes with it. In this sprite under a green flag button tell the sprite to go to the mouse pointer in a forever loop. Then make a separate sprite. This second one needs to be a sprite that has an animated motion (for example a walking animal or human, a swimming fish, a crab that pinches its claws, etc.). This sprite will have two blocks of code, one under a green flag, and the other under "when I start as a clone". Consider making this sprite smaller than normal, because soon there will be 100 of them on the screen. The green flag code will get this sprite to make 100 copies of itself using the clone function, each in a random location and then hide itself. The "when I start as a clone" block of code will show the sprite and then in a forever loop point towards the first sprite (the one that is following the mouse pointer), then move 2 steps per loop. It also changes costumes to the next costume. Finally, if it is touching the first sprite it increases a score variable by 1, hides itself, and stops its script.

Specific steps:

1. Make a variable (available to all sprites) called "score."
2. Set a fun background
3. Make the first sprite set the score to zero, then loop forever, go to mouse pointer, if score = 100 then say "you win" and stop all scripts. To do the "score = 100" you need an equals block from the Operators (green) bunch of blocks.

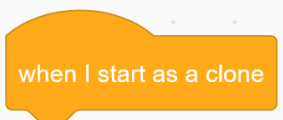
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4. Make a second sprite. This has to be one that has animated motion (walking, dancing, swimming, etc.). This sprite has two blocks of code. First, we'll do the green flag code.
5. Second sprite green flag code:



Repeat 100, go to random position, create clone of myself. That's it.

6. Second sprite, "when I start as a clone" code (this block, by the way, is under the Control set of blocks):



Add a Show block first. Then repeat forever, point towards first sprite, move 2 steps, next costume. Then add an "if" block, and make it do this: if touching first sprite, change score by 1, hide, stop this script. That's it.

7. Test it. When you press the green flag 100 clones will appear and start moving slowly towards the mouse pointer where your first sprite is. As they touch the first sprite they disappear and the score goes up. You're always going to win, the only question is how long it will take for the score to reach 100.

If you want you can play with the timer to put a time limit on it or something, but that is not required. If the clone sprites are too big, make the original one smaller. You can click on it in the sprite pane down below and then change the size from 100 to something smaller. You can also resize the first sprite if you feel that it is too big.

If you want to watch of video of me doing the whole project, [here is a link](#). Have fun, good luck!