

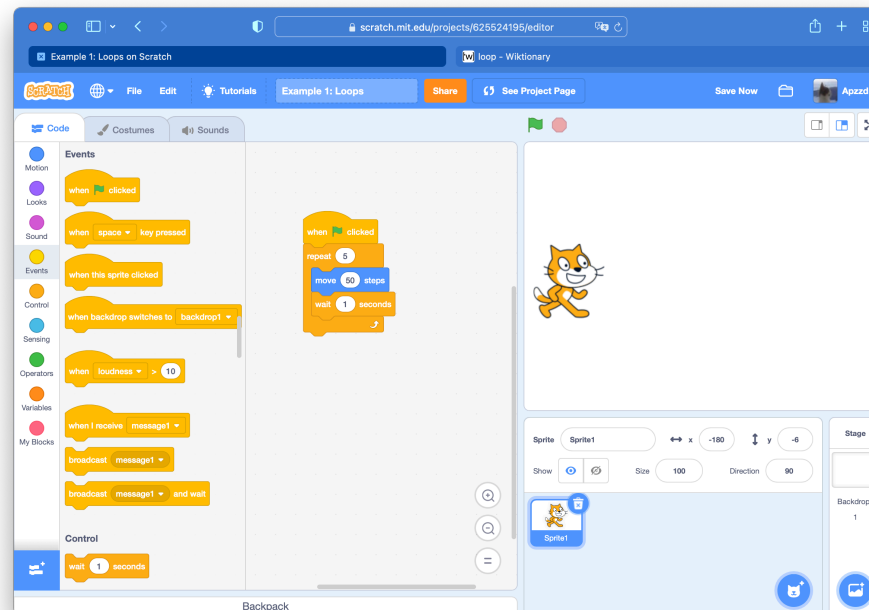
Coding for Good 1: Day 2

Making programs

In this class we will learn about three coding concepts: Loops, events, and conditionals. For each concept, we will learn the definition and then look at an example in Scratch. Then we will make our own loop.

Loops

Loops are things you use in programming to do the same thing over and over again. Let's look at an example of a loop in Scratch.



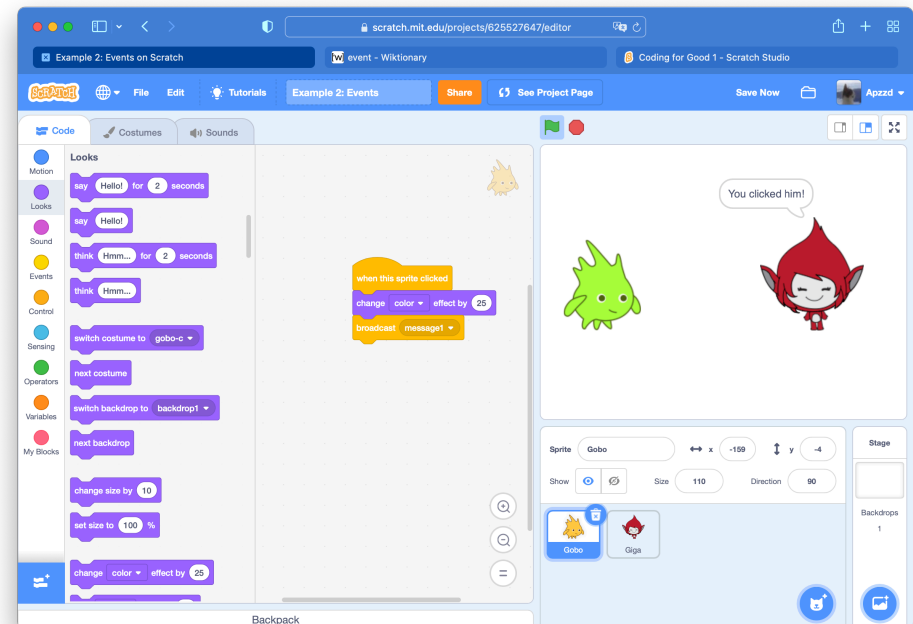
Now let's try to make our own loop. What do you want the cat to do? How many times do you want him to do it? Let's try it in *Play 1: Loops*.

Events

Events are things that occur when a program is running. A programmer usually tells the computer what to do when an event occurs.

There are two things involved in an event. The broadcaster makes it known that something has happened. The listener hears that an event has happened, and does something.

Let's look at an example!

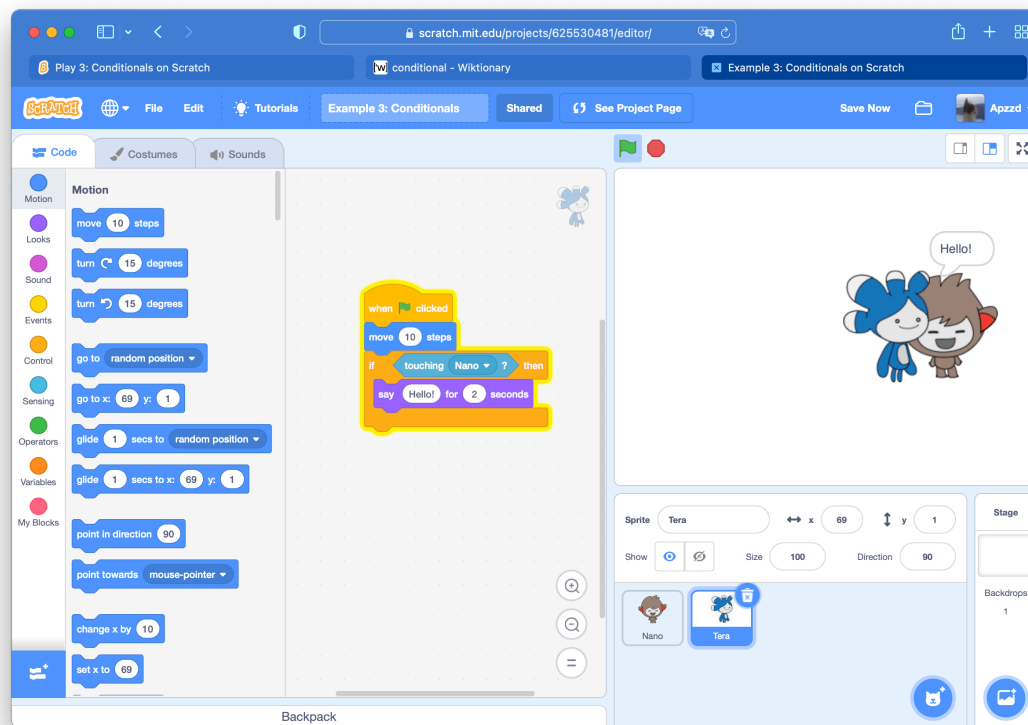


Now let's make our own project using events.

Conditionals

Conditionals are things you use in programming to do something if something else is true. For example, **IF** my cup is empty, **THEN** I will refill it.

Let's look at an example in Scratch.



Now let's make our own program!

★ Challenge: Putting it all together ★

Now that we know what loops, events, and conditionals are, let's help the cat get through the maze!

The screenshot displays the Scratch editor interface. The browser address bar shows the URL `scratch.mit.edu/projects/625532398/editor/`. The Scratch logo is in the top left, and the user's name 'Apzzd' is in the top right. The interface is divided into several sections:

- Code Area:** The left sidebar shows the 'Code' tab selected. The 'Motion' category is active, displaying a list of blocks including 'move 10 steps', 'turn 15 degrees', 'go to random position', 'go to x: -85 y: -133', 'glide 1 secs to random position', 'glide 1 secs to x: -85 y: -133', 'point in direction 90', 'point towards mouse-pointer', 'change x by 10', and 'set x to -85'. A yellow 'when clicked' event block is also visible, with a text box containing instructions: 'Write the cat's code here! Feel free to edit the code of other sprites too. Walk up the steps, and send the broadcast "loopfinished" to Giga if you're touching the star.'
- Stage Area:** The right side shows a stage with a maze. A cat sprite is at the bottom left, and a star is at the top right. The cat's current position is x: -85, y: -133, with a size of 50 and a direction of 90.
- Sprite Area:** The bottom right shows the 'Sprite' panel with 'Cat' selected. Other sprites include 'Sprite1', 'Star1', and 'Giga'. The 'Stage' panel shows 'Backdrops 1'.

