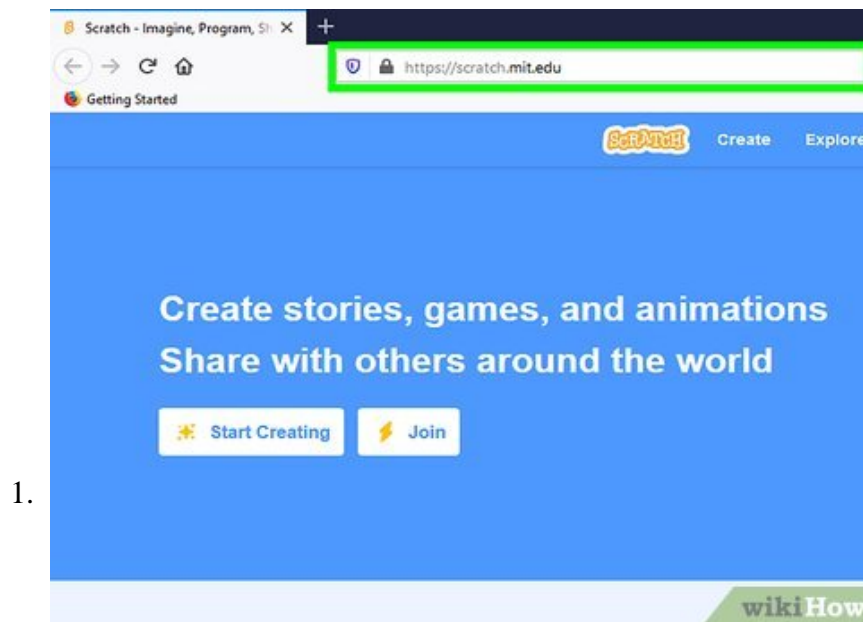


How to Create a Racing Game in Scratch

This wikiHow teaches you how to create a basic racing game using MIT's free Scratch program. The main point of this racing game is to complete the track in as little time as possible without crashing. Open Scratch. Go to...

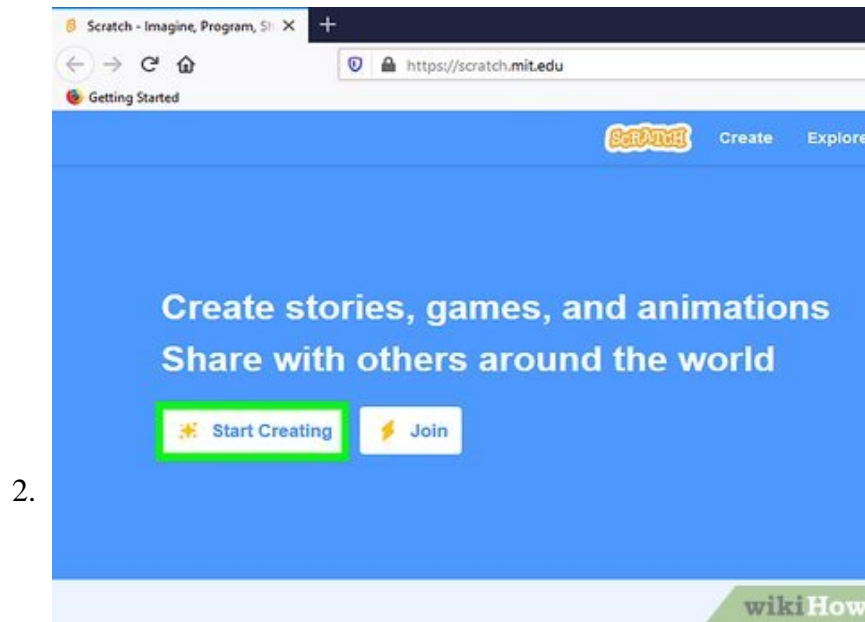
Part 1 of 4:

Setting up Your Track

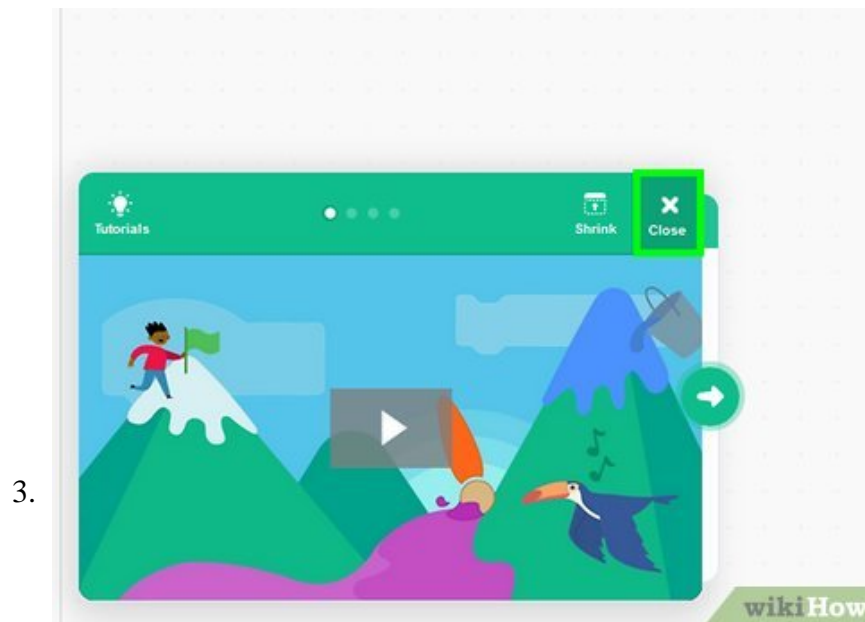


Open Scratch. Go to <https://scratch.mit.edu/> in your computer's web browser.

1. Scratch is a free programming resource for beginners.

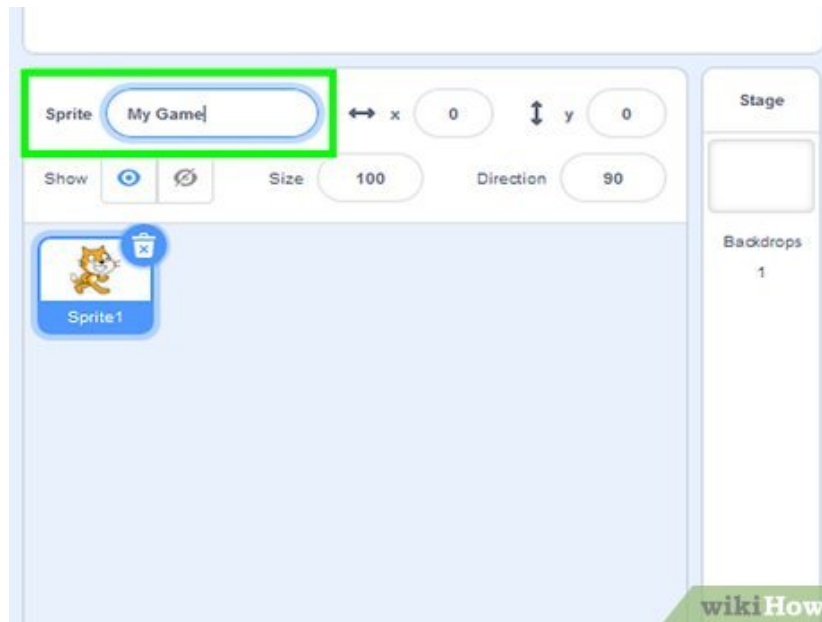


Click **Create**. It's a tab at the top of the page. Doing so opens the Scratch interface.



Close the "All Tips" sidebar. Click the **X** in the list of tips on the right side of the page. While not completely necessary, doing this will make it easier to work in Scratch's interface.

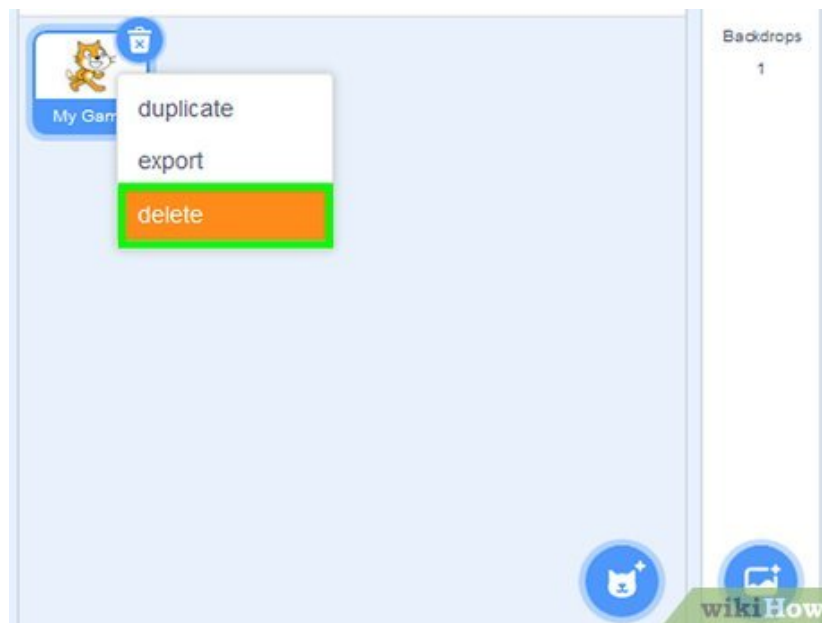
4.



Enter a title. In the text box with "Untitled" written in it that's in the upper-left corner of the page, enter your game's title (e.g., "My Racing Game").

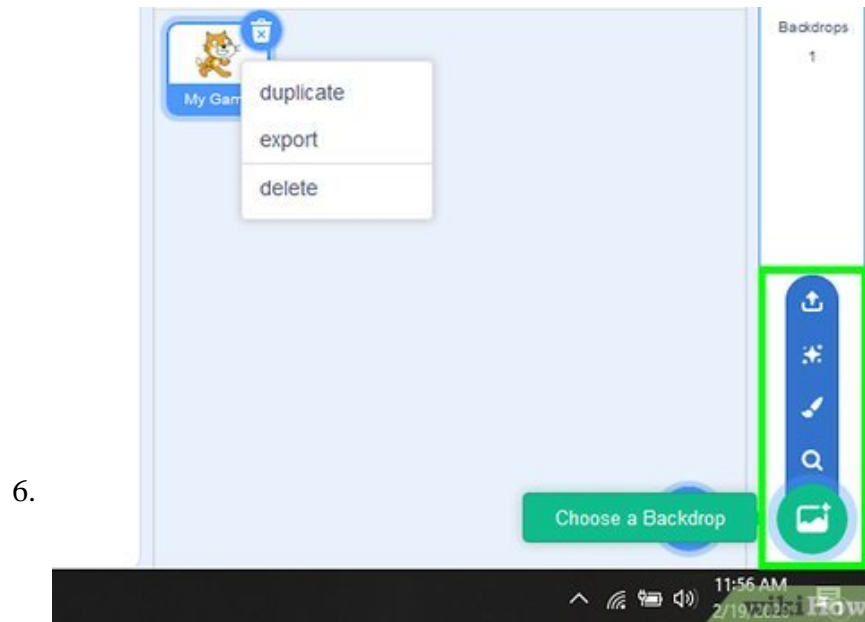
1. You may first have to enable Adobe Flash by clicking the **Allow** prompt or logo.

5.

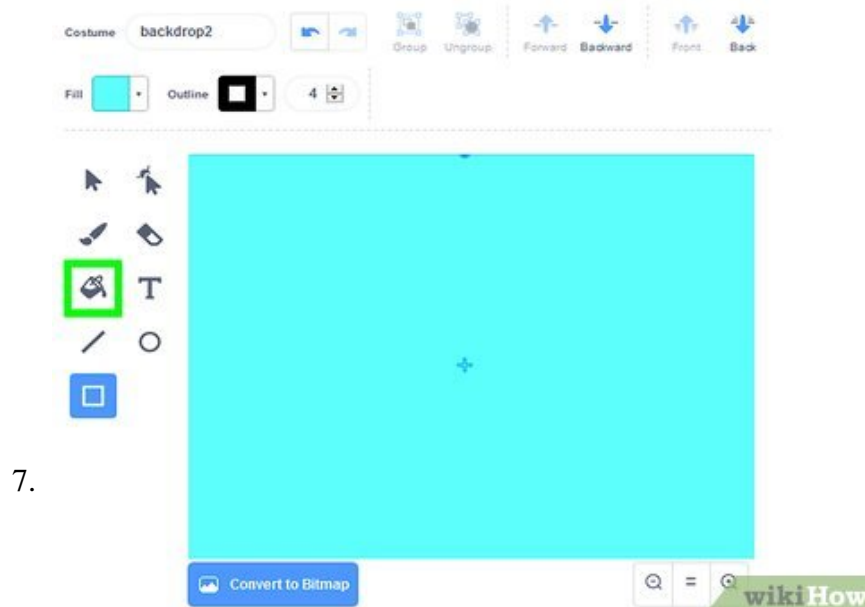


Delete the cat-shaped sprite. Right-click the cat in the "Sprites" window that's in the lower-left side of the page, then click **delete** in the resulting drop-down menu.

1. On a Mac, you can hold down Control while clicking the sprite to prompt the drop-down menu.



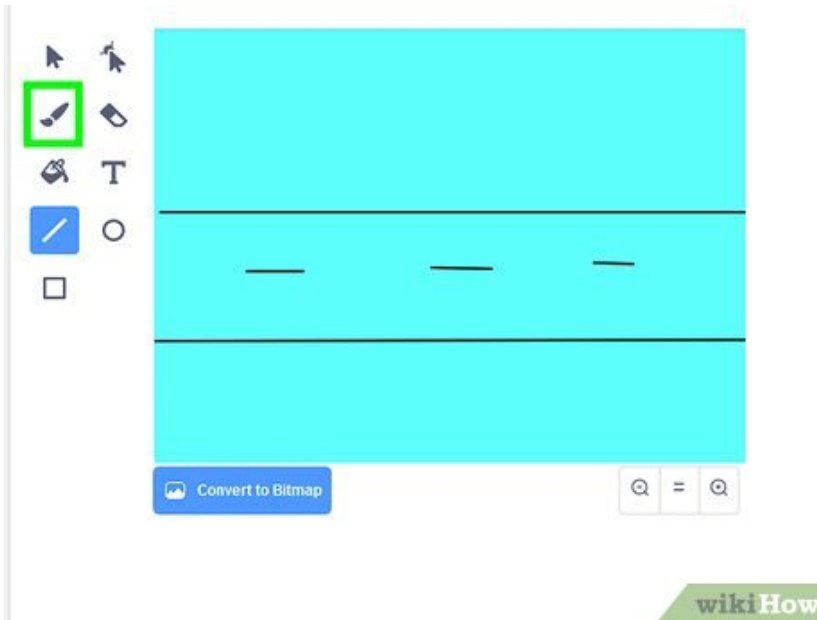
Click the **Backdrops** tab. It's at the top of the Scratch page.



Fill in the background. Before you can draw your track, you'll need to create the background on which the track resides:

1. Click the paint bucket icon that's below the **T** icon.
2. Select your track's background color (e.g., green for grass) at the bottom of the page.
3. Click the background on the right side of the page.

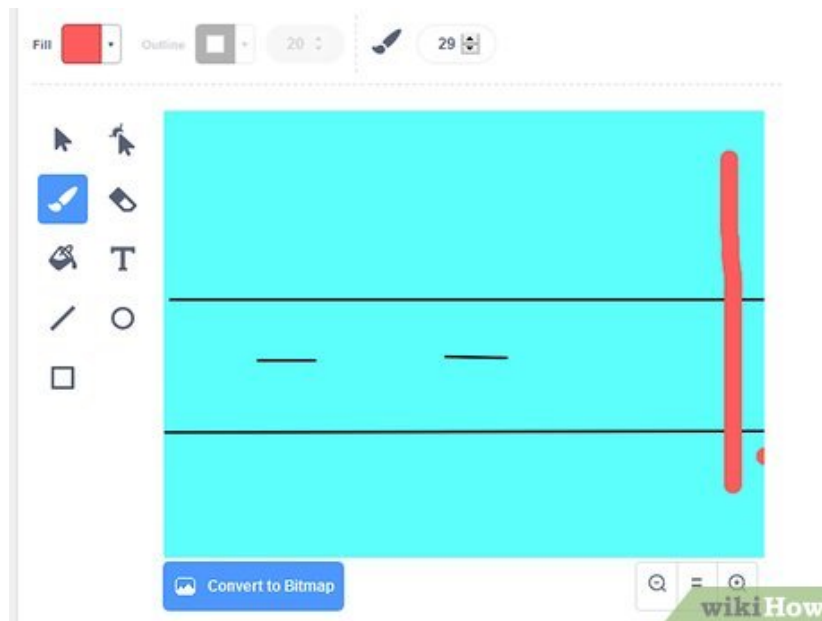
8.



Draw your track. You can make your track as uniform or irregular as you like:

1. Click the brush icon that's at the top of the list of tools.
2. Select a color for your track (e.g., black) at the bottom of the page.
3. Increase the brush width by dragging right the slider at the bottom of the page.
4. Draw the track in a cyclical (not necessarily circular) shape.

9.

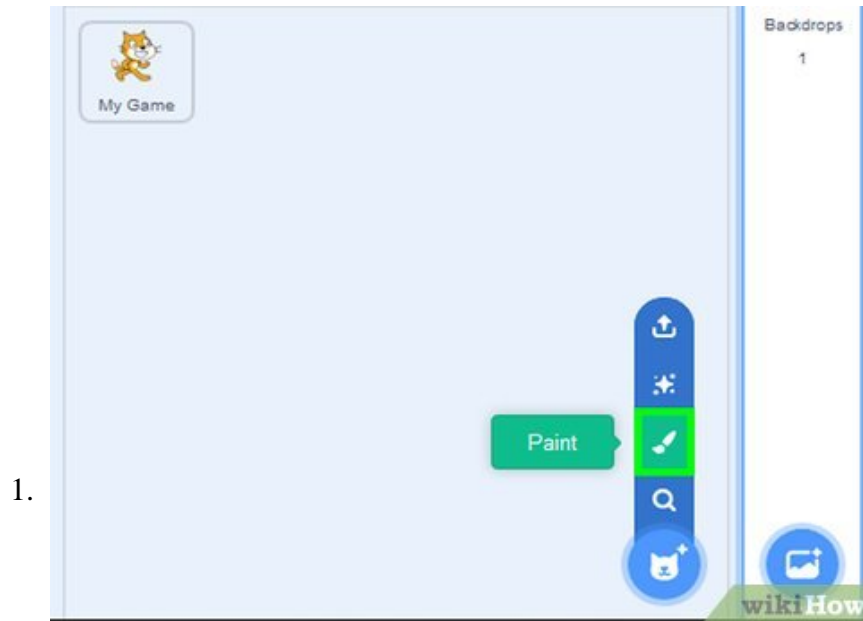


Add a finish/start line. Select a color that's different than the one you used for the background and the track, then decrease the brush's width and draw a line across the place in which you want the race to finish.

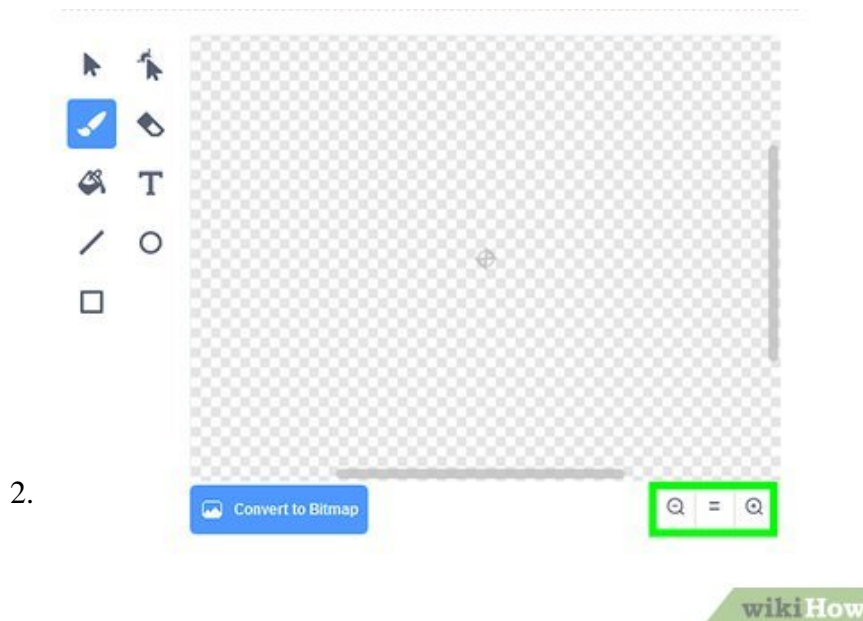
1. This is also the point in front of which your car will start the race.
2. You may want to use the straight line tool, which resembles a back slash (/) below the brush icon.

Part 2 of 4:

Creating a Racer



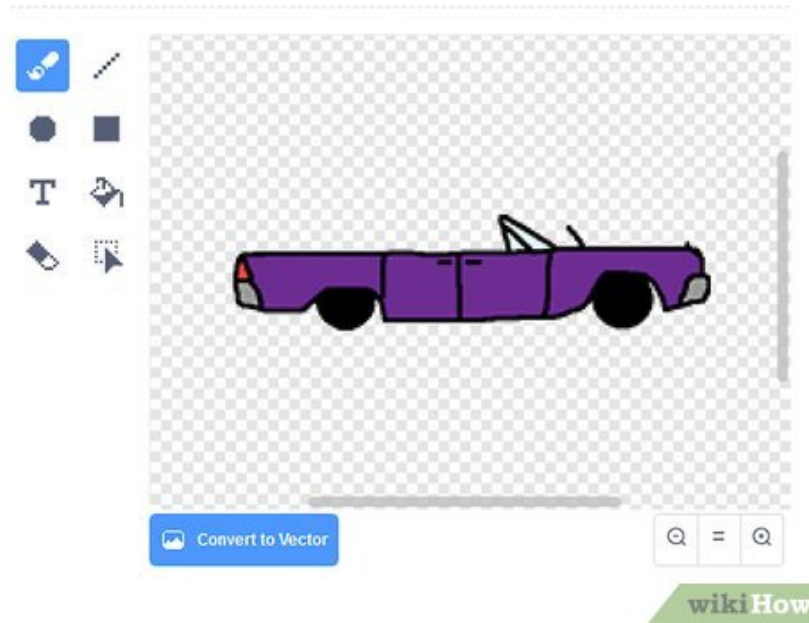
Click the "Paint new sprite" icon. It's a brush-shaped line in the upper-right side of the "Sprites" pane, which is in the lower-left side of the page.



Zoom in. Click the "Zoom in" icon, which resembles a magnifying glass icon with a + in it, at least four times. You should see the large ? icon in the middle of the right-hand pane grow larger.

1. If you didn't do it earlier, you may first have to close the "Tips" sidebar on the right side of the page by clicking the **X** icon in the sidebar's left-hand corner.

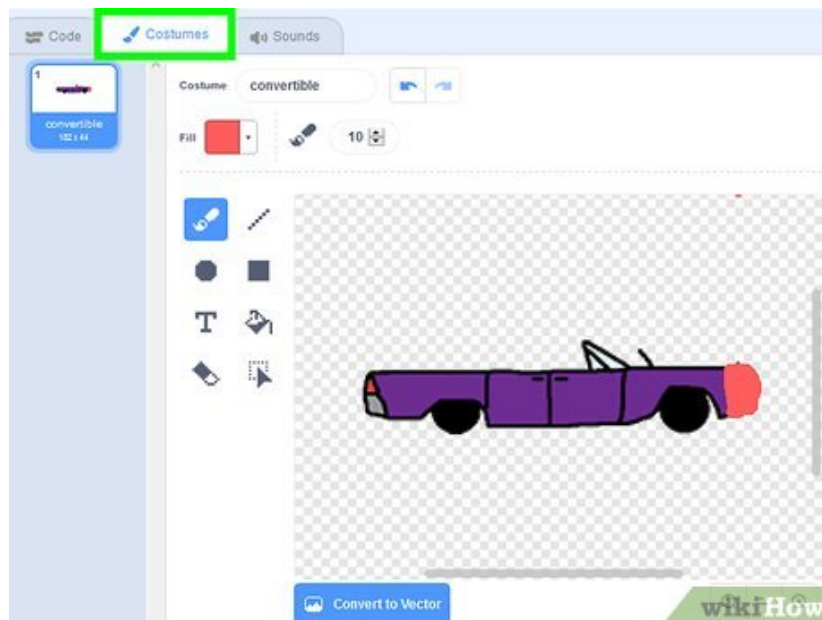
3.



Draw your racer. Using the brush, draw your racer however you like.

1. If you're making a car, you might want to use the rectangle tool (the rectangle-shaped icon) to draw the body and then add the car's wheels with the circle tool.
2. The ? icon in the pane represents the center of your racer.

4.



Draw a crashed racer. Click the brush shaped "Paint new costume" icon below the "New costume" heading, then draw a crashed (or otherwise different) version of your racer. This is the version which will display if your racer touches the grass or any other obstacles you define later.

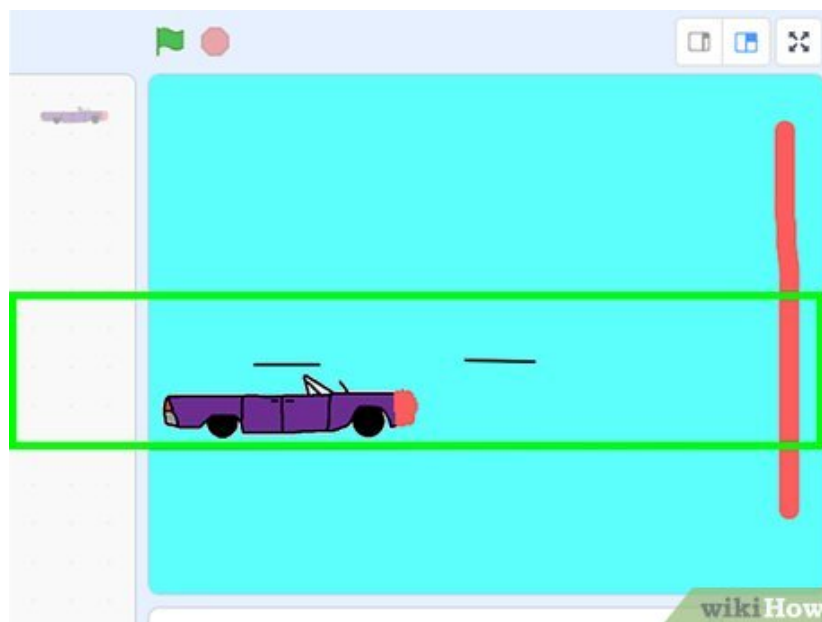
1. For example, if your current racer is a happy face, you might make the "crashed" costume a sad face.

5.



Select your first racer. On the left side of the pane in which you were drawing your racers, click the first one you drew.

6.

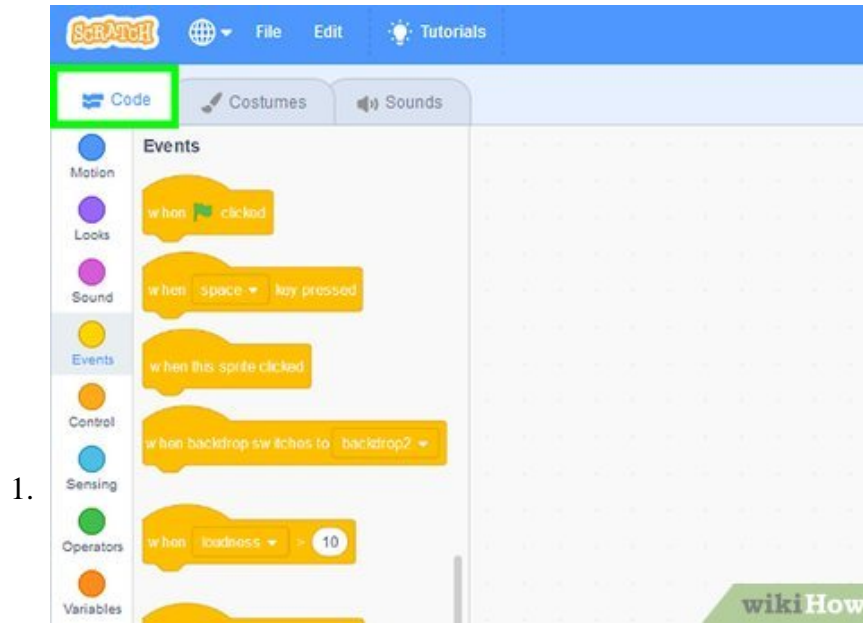


Drag your racer to the starting position in front of the finish line. You'll do this in the left-hand pane. Doing so will ensure that your racer is in the correct starting position when you go to create your script.

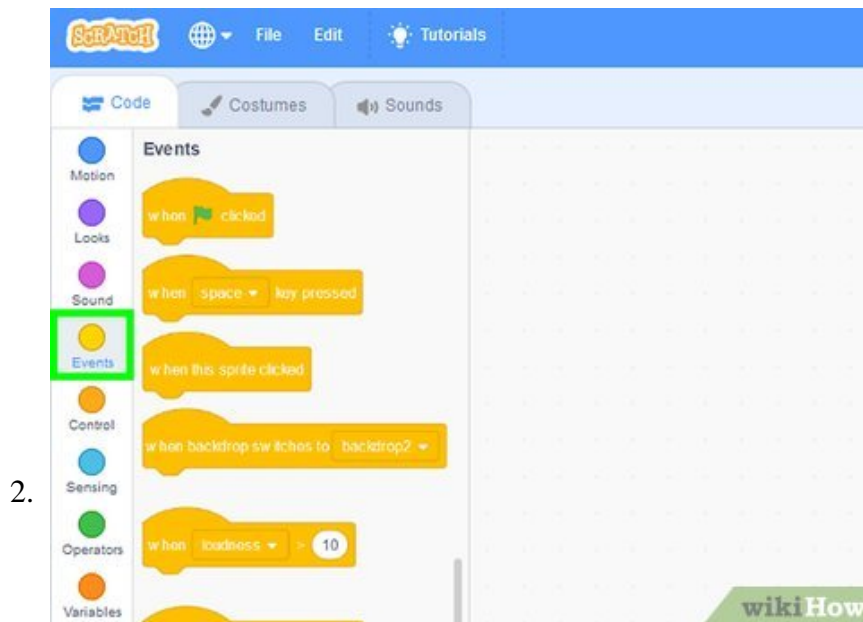
1. The racer will stop once it touches the finish line, so make sure the racer is in front.

Part 3 of 4:

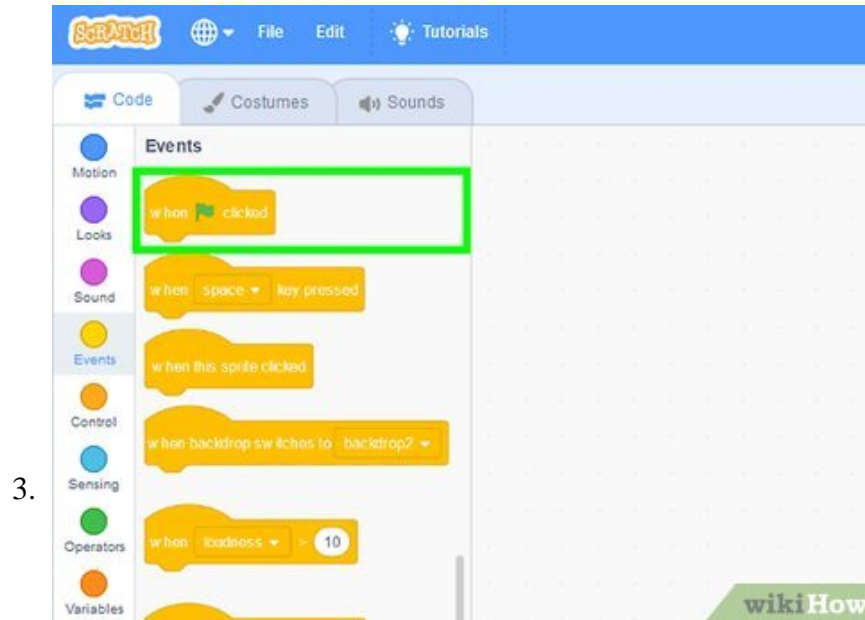
Creating a Starting Position



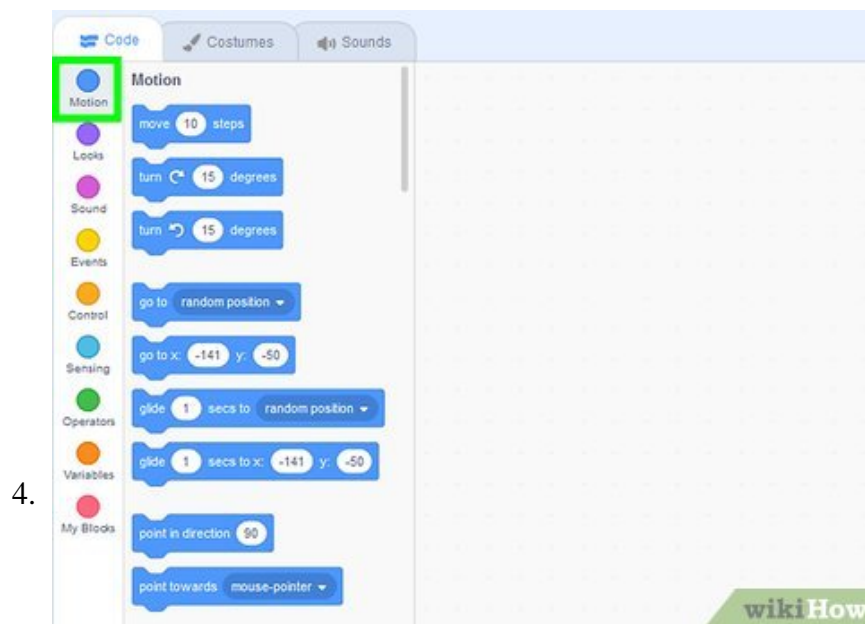
Click the **Scripts** tab. You'll find this at the top of the Scratch page.



Click **Events**. It's an option just below the **Scripts** tab. Doing so brings up a list of event-based code brackets.

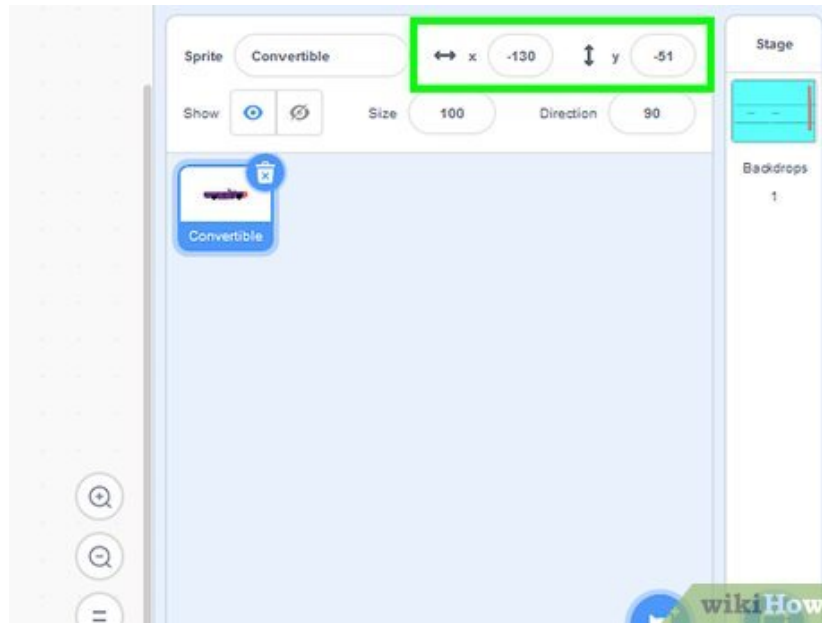


Add the "when flag clicked" event to the pane. Click and drag the "when [green flag] clicked" icon onto the right-hand pane, then release it there.



Click [Motion](#). This blue link is in the **Scripts** section.

5.



Add your racer's starting location. This will determine where your racer starts whenever you begin a new game:

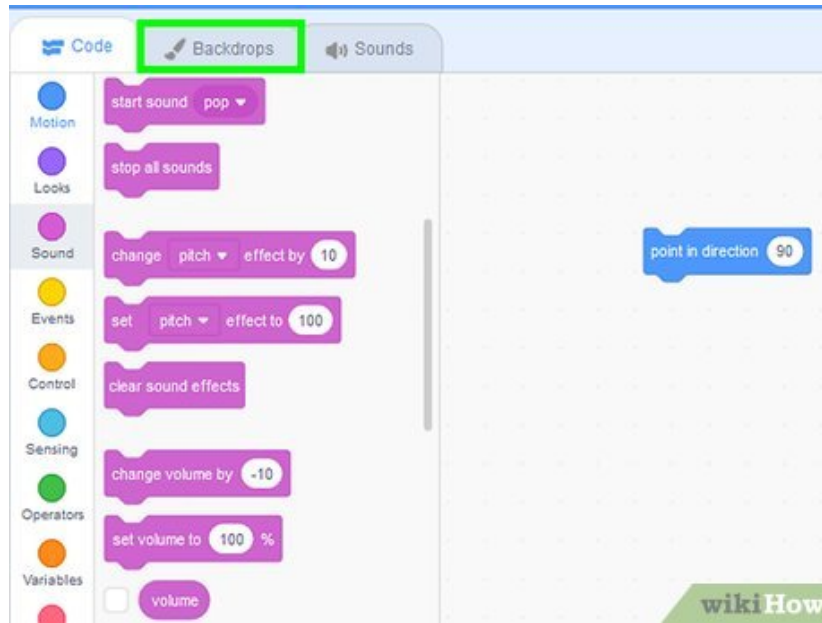
1. Place your mouse cursor over your racer.
2. Review your racer's x and y coordinates just above the upper-right side of the "Sprite" window.
3. Drag the "go to x: 16 y: 120" event to fit under the "when flag clicked" event.
4. Double-click the "16" text box, then type in the x value.
5. Press the Tab key, then type in the y value.
6. Press Enter.

6.



Change the starting position. Drag the "point in direction 90" event from the "Motion" menu to fit under the "go to x y" box. This will ensure that your car is facing the correct direction when the flag is clicked.

7.

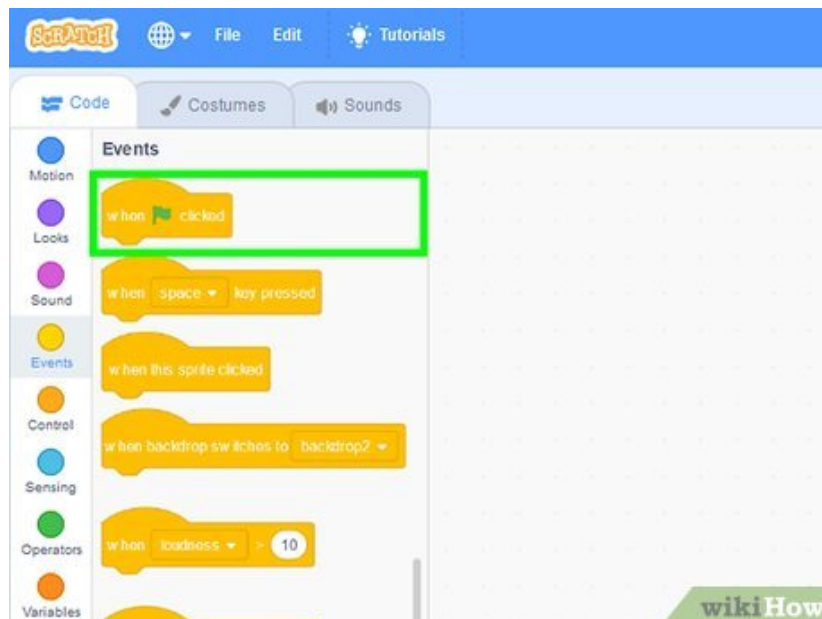


Indicate which costume to use. Click **Looks**, then drag "switch costume to costume2" to fit below the starting position, click the "costume2" box, and select **costume1**. This causes your racer to revert to its non-crashed costume when you reset the game.

Part 4 of 4:

Creating Movement Rules

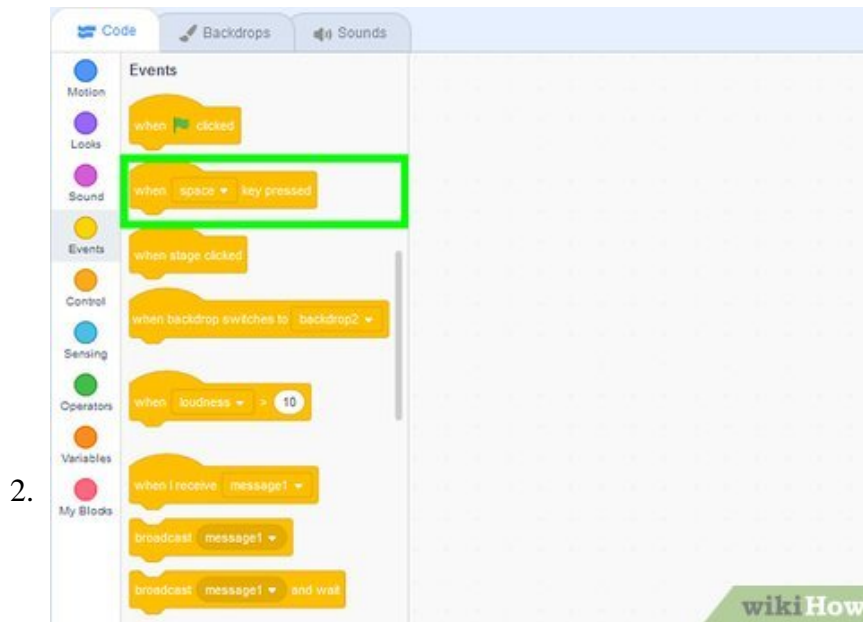
1.



Add a movement script. This is the script which your racer will use to move forward:^[1]

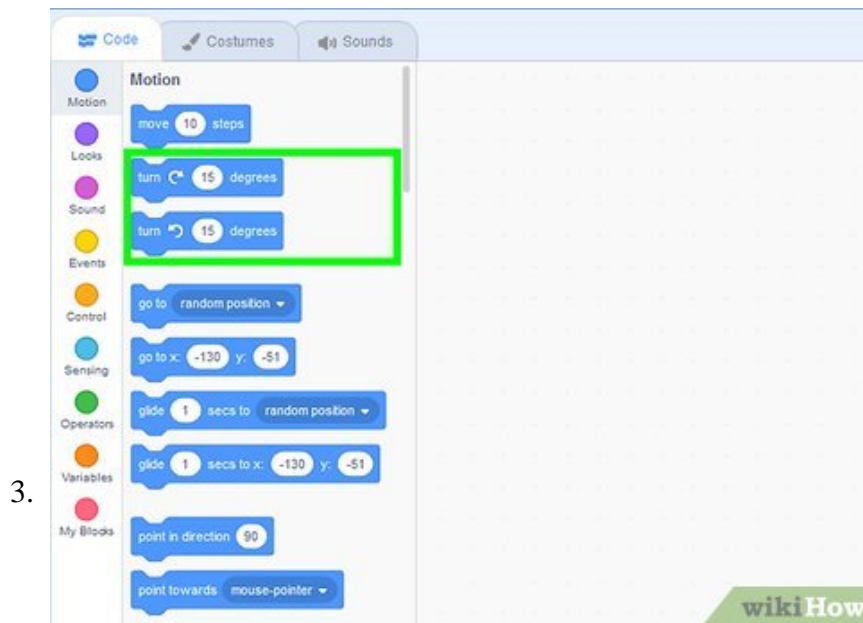
1. Click **Events**.
2. Drag the "when flag clicked" event onto the pane, separate of the first "when flag clicked" script.
3. Click **Control**.

4. Drag the "forever" event to fit below the "when flag clicked" script.
5. Click **Motion**, then drag the "move 10 steps" option to fit in the "forever" slot.
6. Change the "move 10 steps" variable from "10" to "2", then press `?Enter`.



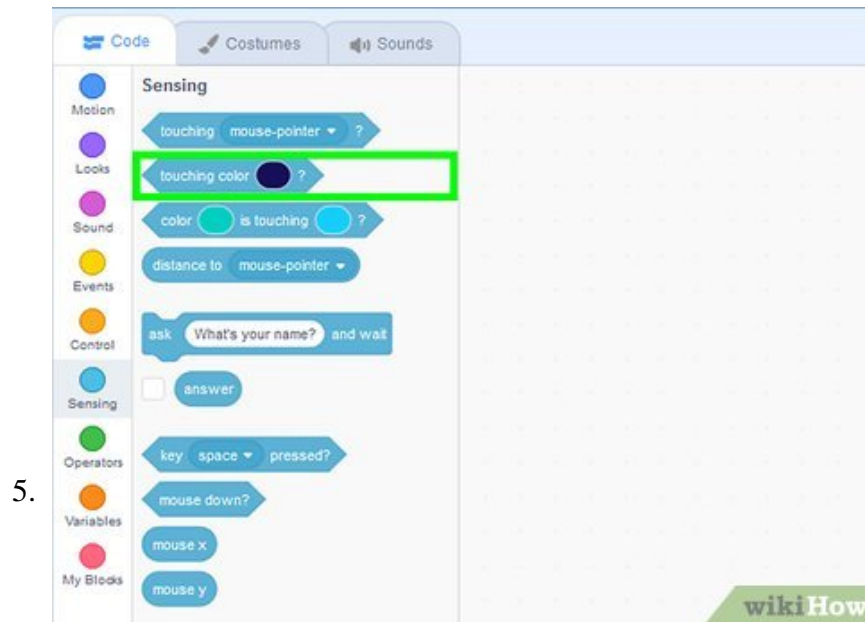
Create controls. You'll use the following script to assign turning controls to your racer:

1. Click **Events**, then drag the "when space key is pressed" event onto the pane twice. You should have two separate "when space key is pressed" events.
2. Click the "space" text box on one "when space key is pressed" event, then click **left arrow** in the drop-down menu.
3. Click the other "when space key is pressed" event's "space" box, then click **right arrow** in the drop-down menu.



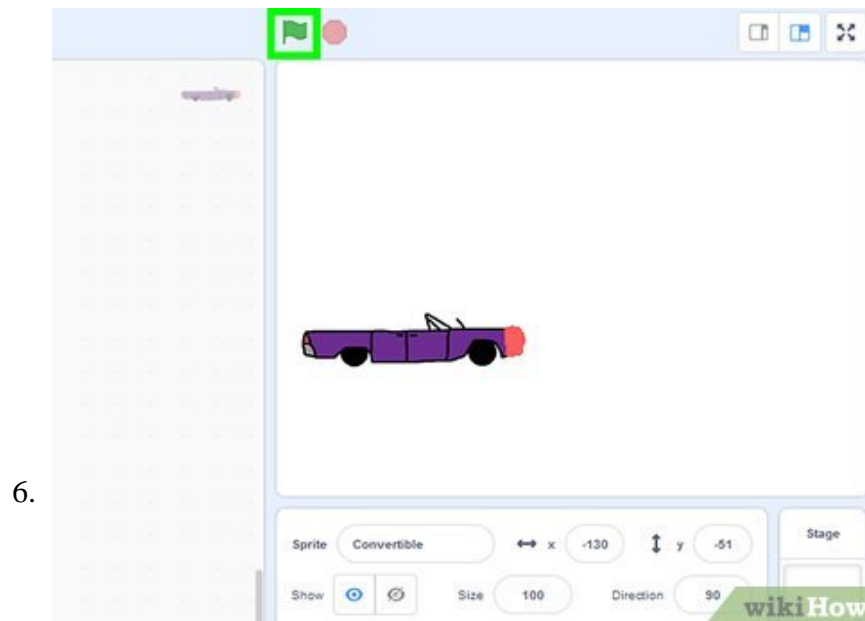
Add motions to the controls. This is how you'll use the arrow keys to turn your racer:

1. Click **Motion**.



Make a finish line reaction. The following script will create a victory message once your racer crosses the finish line:

1. Click **Control**, then drag the "if then" option onto a blank space.
2. Click **Sensing**, then drag the "touching color" option into the "if then" option's blank space (between the "if" and "then").
3. Click the current color next to "touching color", then click once the finish line.
4. Click **Looks**, then drag the "say hello for 2 secs" option to fit inside the "if then" gap.
5. Change "hello" to say "You won!", then change the "2" to whatever amount of time you want to use and press **Enter**.
6. Drag the whole "if then" assembly into the "forever" bracket below the other "if" bracket.



Test your game. Zoom out by clicking the - icon in the bottom-right side of the backdrop area, click the green flag above the left-hand pane, and then use the arrow keys to maneuver around your track. You

should be able to reach the finish line without crashing.

1. If you determine that the track is too narrow or irregular to complete, you can adjust it by clicking the track's icon in the lower-left side of the page, clicking the **Backdrops** tab, and drawing in the areas which need fixing with your track's primary color.

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