Lesson 1.7: In Search of Bugs - Part 2

Objectives

In this lesson, students will:

- Learn how to remix a project
- Investigate and learn strategies to debug and fix a program
- Practice programming initialization code through debugging

Agenda

1. Remix a Project	10 mins
2. Student Activity: In Search of Bugs	20 mins
3. Activity Solution Discussion	15 mins
4. Wrap Up and Reflections	5 mins

Preparation

- ❑ Print student activity worksheet.
- ❑ Become familiar with the student activity debug puzzles and the solutions

Resources & Links

- ❑ Debug 1 Remix Project: https://scratch.mit.edu/projects/258963022/
- ❑ Debug 2 remix Project: https://scratch.mit.edu/projects/258963466/

1. Overview

In this lesson students will test and debug a given Scratch project online which they will need to remix. First demonstrate how to remix a project given a project number. The student activity consists of a project to remix, then test and debug. Follow up the student activity with a review of the solution to the "buggy" code.

2. Remix a Project

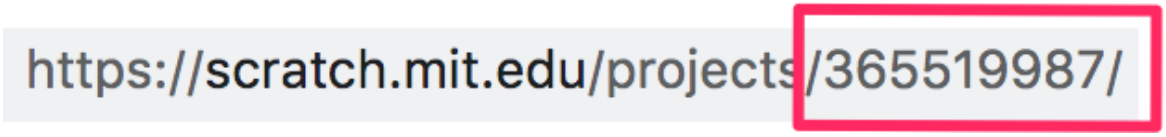
Explain to students what it means to remix a project. Since students will be remixing starter projects during the student activities, focus the demonstration on how to remix a project when given a project number.

The other way to remix a project is while exploring existing projects in Scratch. Once a project of interest has been found, you click on the project, then click on the green remix button and save it with a new name.

Remixing a project given a project number:

1. Open a browser, go to scratch.mit.edu and sign in to your Scratch account.
2. Select an existing project in your account:

   Point out the url in the browser, specifically the project number shown in the red box (your number will be different).

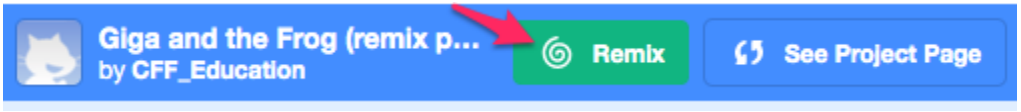
3. Replace the project number between the slashes with **365519987**. Make sure that the forward slashes (/) remain in place. If you double click on the project number, it is selected and you can delete the previous one first. It is easy to make a mistake when typing in a new project number.

   Now the URL should be : https://scratch.mit.edu/projects/365519987/

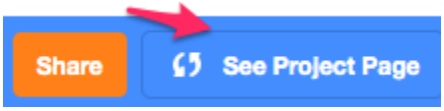
   Click **enter** (return key)

4. If the editor is not already open, click on "**See inside"** in the upper right corner

3. Click on "**Remix"** and **save** your project with a new name



4. Start working or exploring the new project or you can go back to the project page.



3. Student Activity: In Search of Bugs !

Distribute the activity worksheet and ask students to remix the given project, test and debug the scripts.

If time allows, students can solve the debugging challenge.

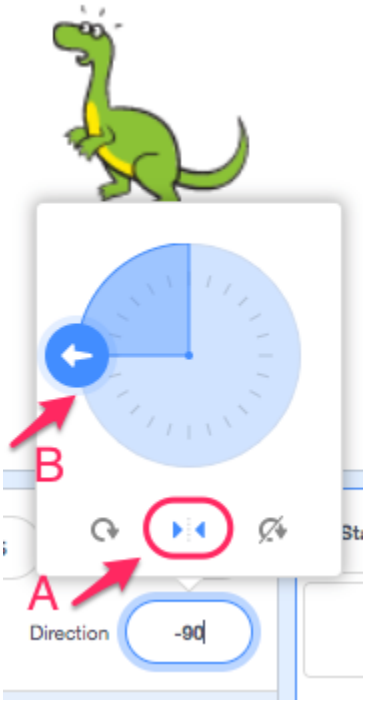
4. Activity Solution Discussion

Review the solution as a class activity.

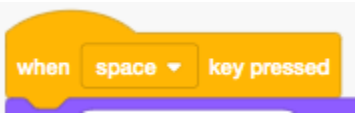
For the first debugging activity there are 3 bugs. Let's look at each one.

1. Dino is looking away from the cat. To fix that, we need to change the turning style to the 2 arrows (back and forth). See A in the image to the right.

   Next we need to turn Dino around by switching Dino around using the arrow in the circle. See B in the image.



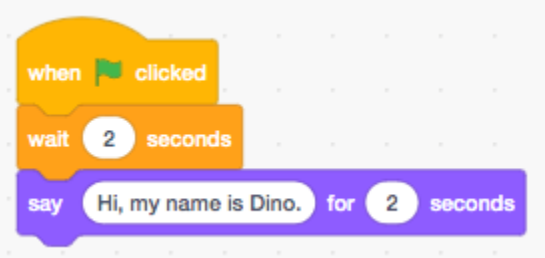
2. Dino's script begins with



   This should be replaced with:

3. If Dino does not wait to say something, Dino would be talking at the same time as the cat. We need to add a **wait** block for the same number of seconds as it takes the cat to say something, in this case 2 seconds.

   The correct script for Dino looks like this:



Debugging Challenge:

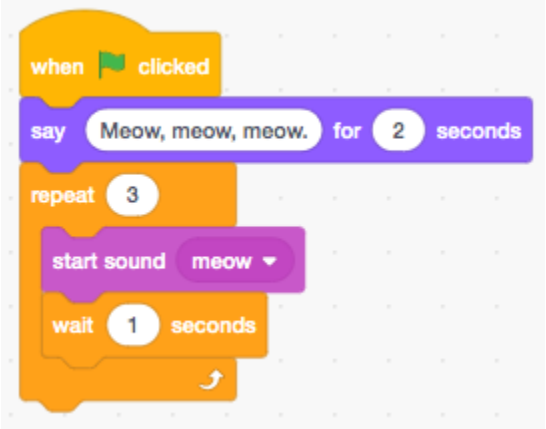
There are 2 bugs in the cat's script:

1. The **start sound** block should be inside the repeat loop.

2. The repeat loop should repeat 3 times. The description said the cat should make the sound 3 times, not 2 times.

Note: the **wait** is so that each sound can be distinguished from the next and they don't run into each other.

The correct script looks like this:



5. Wrap Up and Reflections

Reflection Points
• What did you learn during the bug search? • What strategy did you use to fix the problems?

Student Activity: In Search of Bug

What to do:	Using/Details:
Remix and save	258963022
Test the program: When the program starts, the cat asks the dinosaur for its name. But the dinosaur does not respond and is looking the wrong way.	
Can you **debug** and **fix** the program?	

Debugging Challenge:

What to do:	Using/Details:
Remix and save	258963466
Test the program: The cat should say "**Meow, meow, meow**" and also make the meow **sound 3 times.**	
Can you **debug** and **fix** the program?	