Coding Concept: Debugging

Objectives:
Students will be able to use graph paper designs to practice debugging in groups.
SWBAT complete Code.org debugging lessons.
SWBAT create, then test and debug each other's apps on App Lab.

Supplies:
- Worksheets
  - Explore for Bugs (1 per student)
  - Likes and Gripes (1 per student)
  - Relay Programming Packet (1 per group)
- Blank paper
- Pencils

Introductions/Icebreaker

30 min: Unplugged
- ***Bug*** - *Part of a program that does not work correctly.*
- ***Debugging*** - *Finding and fixing problems in an algorithm or program.*
- Sunburn Debugging
  - *What Happened?*
  - *What was supposed to happen?*
  - *What does that tell you? How can we fix it?*
- Variation on Relay Programming (Unplugged Lesson Course 2, Stage 9): Graph Paper Debugging in Groups
  - Break into groups of 3-5 students
  - First person writes instructions to get to the first filled-in square, next person debugs the program so far, and then writes instructions to next filled square.

1 hr: Practice on Code.org
- Course 2, Lessons 10 & 11
- For faster-paced participants:
  - Course 3, Lesson 14

1 hr 30 min: Lab (App Lab)
- (45 min) Creating with no help
  - Brief tutorial of App Lab (show design mode vs. code mode, show how to add images and sounds)

- ○ If students were here last week, have them keep working on the apps they started. If not, have students start a new app in App Lab.
- ● (45 min) Debugging
  - ○ (5 min) Explore for Bugs worksheets - students work through their own apps to look for bugs.
  - ○ (15 min) Likes and Gripes worksheets. Students trade with a partner and explore the partner's app, making notes of things they like and suggestions for improvements.
  - ○ (25 min) Come back to your own computer and work on fixing bugs and considering partners' suggestions.
    - ■ Show the Debug Console in App Lab

Reminder about Showcase Next Week!
- ● Be here at the normal time (bring your friends and family!)
- ● Choose one of your apps you've been working on to show off and get it set up on a laptop
- ● Impress your friends and family!