Lesson 5: Building an App: Clicker Game

Adopted from code.org curriculum

Objectives: You will be able too…

ଔ Use global variables to track numeric data in an app.

ଔ Give a high-level explanation of what "variable scope" means.

ଔ Debug problems related to variable scoping issues.

ଔ Modify existing programs to add and update variables to track information.

ଔ Create a multi screen "clicker" game from scratch

Getting Started:

Recall In the previous lesson, we learned about the basic mechanics of working with variables in JavaScript.

- We developed a mental model for thinking about how values are stored and retrieved from memory and that we should read the "=" sign as "gets" to avoid confusion.

Moving forward The whole purpose of learning about variables though is so that our apps can make use of them while a program is running. In this lesson, we'll see how to do that. So let's get to it.

Activity:

ᙍ We will use the Activity Guide – The Clicker Game starting at level 21

ᙍ Code Studio – Stage 5

ᙍ Make sure you read the "Creating Variables in the Right Place" info page on Code Studio

Wrap-up:

❧ Peer Review the clicker game (similar to the fact that you have to give and receive feedback with a partner to improve their programs in the Create Task)

❧ Now that we understand a bit about variables and how to use them in our programs, a whole new world will open to us.

❧ First, we will learn that variables can hold other kinds of data besides numbers.

❧ We'll also learn other ways to get data from the user using other UI elements like text input, pull-down menus, and so forth

Vocabulary:

- == - The equality operator (sometimes read: "equal equal") is used to compare two values, and returns a Boolean (true/false). Avoid confusion with the assignment operator "=",

- Global Variable - A variable whose scope is "global" to the program, it can be used and updated by any part of the code. Its global scope is typically derived from the variable being declared (created) outside of any function, object, or method.

- If-Statement - The common programming structure that implements "conditional statements".

Vocabulary:

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ℭ Local Variable - A variable with local scope is one that can only be seen, used and updated by code within the same scope. Typically this means the variable was declared (created) inside a function -- includes function parameter variables.

ℭ Variable Scope - dictates what portions of the code can "see" or use a variable, typically derived from where the variable was first created. (See Global v. Local)