Lesson 4/5/6/7

Feynman Writing Prompts:

* Variables

In the world of computer programming a variable is a more user-friendly way to reference a location in the computer’s RAM that stores data. By using variables, computer programs don’t have to know the actual memory address where to store or retrieve data during program execution.

* Strings
* Functions (arguments, return)
* if statements
* Boolean values (true, false)
* for
* &&, ||, !
* Arrays – Hey kids, guess what? Did you know that you probably have used an Array-like structure in the real world all through your elementary school years? Can you guess what that structure is? Cubbies! That’s right! An array is a structure that creates a place in the computer’s memory to hold data of the same type, with each individual data element in its very own space (or position) in the array. This is just like the classroom cubbies in which there’s a space for each student’s papers. Also, just like the classroom cubbies are often numbered and each student knows his/her number and therefore which cubby spot belongs to him/her, each item (called elements) in an array has a number (called an index) that refers to its location in the array. This index is used to reference a specific piece of data in the array just like the how a classroom would use cubby numbers to access each individual student’s papers. One seemly odd difference between real-world structures and arrays is that the numbering of the spots in the array begin at zero (0)!!! So the very 1st element in an array is at position 0 (index = 0). That may seem rather strange but it actually works well in the computing world! Of course, in the classroom, cubby numbering typically begins at 1. So, myArray[2] would be how you reference the 3rd element in the array and cubby 3 (or written like an array it would be cubby[3]) would reference the spot in the cubbies that student 3 uses. I propose that teachers can encourage digital literacy in their kindergarten students by starting cubby numbering at 0!
* Objects
* Properties
* Methods
* for in loop
* Dot notation vs bracket notation