Grades 9-12
Distance Learning Module 1: Getting (re)Started
Week of: March 30 - April 3

Mathematics: Introduction to Computer Science L2 - *Modified from Unit 1 - Unit 4*

Targeted Goals from Stage 1: Desired Results

Content Knowledge: how to setup a Python environment in order to create, save, and run a program in Python at home; review of Units 1-4 (and parts of Unit 5) including: working with variables, calculations, and the assignment statement; conditional logic; using built-in functions; creating and using user-defined functions; iteration

Vocabulary: variables, assignment statement, script, program, IDE, repl.it, conditional statement, loop, iteration, if, elif, else, for, while, operator, function, string, integer, float, boolean

Skills: running a program from IDLE or an online interpreter such as repl.it, creating a program, performing calculations involving addition, subtraction, multiplication, division, exponentiation, and modulo operators on numbers, concatenating string, converting datatypes from string to numeric using the built in functions, formatting output, getting input, naming and defining variables, modeling real world decision making through conditional statements, working with logical operators (AND, OR, NOT), testing strings for equality, using built-in functions, creating functions, passing arguments to a function, returning values from a function, nesting function calls, invoking a function, writing "for" loops, writing "while" loops, modeling events with random numbers and loops

Expectation:

Description of Task (s):	Resources and Materials:	Daily Checks (Return to Google Classroom or snapshots from a cell phone)
Monday: Students will work to set up a development environment where they can write and run Python programs.	Installing and Running Python on Windows Installing Python on Mac OS X Getting Started with repl.it	Screen shot of the environment setup and able to run a "hello world" program.

Description of Task (s):	Resources and Materials:	Daily Checks (Return to Google Classroom or snapshots from a cell phone)
	Playlist for the 3 videos above	
Tuesday: Students will begin the process of reviewing Trimester 1 content, focusing on understanding the various data types as well as how to perform basic numeric calculations.	Trimester 1 Review Part 1 - Data Types Trimester 1 Review Part 2 - Calculations and Variables	Google Classroom Quiz - Data Types Google Docs Quiz - Calculations and Variables
Wednesday: Students will review Trimester 1 concepts of advanced calculations such as accumulating and totaling, and shorthand assignment operators. They will also review common calculation errors.	Trimester 1 Review Part 3 - Advanced Calculations,Advanced Calculations, Shorthand Operators, Math Errors	Practice exercise
Thursday: Students will review string operations as well as basic string manipulation techniques.	Computer Science Trimester 1 Review Part 4 - Strings	Practice exercise
Friday: Students will complete a hands-on activity that reviews the concepts covered this week.	Computer Science Trimester 1 Review Part 4 - Strings Day 2	Practice exercise

Week criteria for success (attach student checklists or rubrics):

By the end of this module, students will be able to create and run Python programs on their computers at home. Students should also be able to write and run programs that utilize the concepts covered in Review Videos 1-6, as demonstrated by completing review assignments, quizzes, and (optionally) Coding Bat exercises.

Supportive resources and tutorials for the week (plans for re-teaching):

Think Python, 3rd Edition (free online Python book)

Coding Bat

Office hours

Python Programming Third Education by John Zelle. This textbook provides additional examples and content, and is available for purchase from Amazon and other retailers.