KUBO CODING TERMINOLOGY

COMMANDS

Every TagTile® constitutes a command.

SEQUENCES

A sequence consists of a line of commands put together into a line of code.

MOVEMENTS

Movement tiles consist of basic commands such as Go Left, Go Right, Go Forward 1.

ROUTES

A route is simply a sequence of commands for KUBO to follow using the Movement tiles. When KUBO is placed on the first tile, KUBO will follow the route step by step.

FUNCTIONS

A function is a sequence of commands memorized by KUBO. The Function tiles enable you to save sequences so they can be used as many times as needed. A sequence is memorized by encasing Movement tiles within two Record Function tiles and running KUBO along the line of code. A function is executed by placing KUBO on the Play Function tile.

LOOPS

In coding, loops are used to repeat commands or functions a preset number of times. In order to create efficient code, students need to learn that a long sequence can be improved by repeating selected steps more than once. To make KUBO repeat a sequence more than once, use a loop within a function.

SUBROUTINES

A subroutine is effectively a function placed within an existing function. Subroutines help you make code shorter and easier to manage. Subroutines are coded by creating two separate functions and then placing the Play Function tile of one function into the second function.

RECURSIVE FUNCTIONS

A recursive function is a function that repeats itself indefinitely. It is created by placing a Play Function tile within the function you want KUBO to execute, usually at the end of a sequence.

MODULATORS

A Modulator tile is used as a guide so you place the correct TagTiles in the correct order when changing or setting a variable or checking a variable against a given value.

VARIABLES

Variables are used for storing a value. A parameter is used to modify or change the value of the variable. There is almost no limit to the number a Variable tile can contain.

OPERATORS

Operators are used to change or check the value of a variable. When checking, you can use =, >, or < to see if the variable is equal to, more than, or less than a value. If you want to increase or decrease the value of the variable, you use the + or − tiles.

PARAMETERS

A Parameter tile is a number that is constant. Parameters can be used to define how many times KUBO executes a loop, how fast it drives, or what angles to turn. They are also used to control or check a variable.

CONDITIONS

Conditional tiles consist of Start If/End If, True, and False tiles. These enable you to define a sequence of behaviors depending on whether a condition is true or false.

EVENTS

Event tiles are used in conjunction with Conditional tiles, enabling you to define an alternative sequence of behavior for KUBO to execute if the robot meets an Event tile on the activity map.

RANDOM

Random tiles instruct KUBO to execute commands in random order and number. These enable you to work with probability while learning to code.

ALGORITHM

An algorithm is a detailed set of step-by-step instructions for completing a task or solving a problem.

DEBUGGING

To debug means to identify an error in the code and correct it in order to complete a task successfully.