Collections

Lesson 10 – Expert Coding in Minecraft with JavaScript

1. Why is it important for a program to handle a variety of inputs and situations?

2. What is the significance of a program's behavior during execution?

3. What are program inputs?

4. List and describe the forms of program inputs.

5. What sources can input come from?

6. What is a collection?

7. What are the built-in collection types provided in JavaScript?

8. What is an array?

9. What types of values can be stored in an array?

10. What does it mean to traverse a list in JavaScript?

11. What are the two types of traversal?

12. Why would a programmer use a text array?

13. What is an object?

14. What are key-value pairs in an object?

In Game Assessment References:

**For Activity Assessments, students will build the code completely on their own. They need to press C at the activity area and create a new project. When complete, they will save their MakeCode file and upload it to the portal for grading.

Activity Assessment 1:

Create code that uses an array named playerName with the following names: Todd, Ashley, Sara. And an array named material with the following blocks: Oak planks, Crimson planks, and cherry planks. First have the player say Hello to the playerName in place 2 of the playerName array. Then use a for loop to have the agent place down 2 of the each of the blocks in the material array.

Activity Assessment 2:

Create code with an array named blockTypes with the blocks of diamond, gold, and emerald. Also create an object called wall with the length of 3, height of 1, and a buildRow function. The function will build a row as long as the wall length (3) and have the agent choose a block at random from the array of block types for each block it puts down.

Final Assessment: Mini Game

This game is intended to randomly choose food from an array. The player must then find that food and eat it. The goal is that the player will eat five golden apples and then the player will say "You win!" Each time the player eats something, a different food is added into the array. When they eat mutton, a carrot replaces the 0 spot. When they eat a carrot, mutton replaces the 0 spot. When they eat a cake, a cookie replaces the 2 spot. When they eat a cookie, a cake replaces the 2 spot. When they eat an apple, a potato replaces the 1 spot. When they eat a potato, an apple replaces the 1 spot. After eating anything, the game function is called to have the player say the next food that needs to be eaten.