Computer Science Virtual Learning

PLTW Computer Science Principles

May 8, 2020

Lesson: May 8, 2020
Using Data Abstraction and Arrays/Lists in Microsoft MakeCode: Option for The Create Performance Task

Learning Target:

Use abstraction to manage complexity in programs.

Data abstraction provides a means of separating behavior from implementation.

Lists and list operations, such as add, remove , and search, are common in many programs.

Using lists and procedures as abstraction in programming can result in programs that are easier to develop and maintain.

Today we're going to start looking at how we can use lists in programs, but before we dive into that, let's think about why we would want to in the first place. What are the benefits of creating lists? Why is it helpful to keep information in lists?

Consider the following ways that we can use lists:
- **Lists help us organize information.**
- **Lists help us collect all the relevant information in one place.**
- **Lists show that a lot of ideas are related.**
- **Lists help us order or prioritize ideas.**
- **Lists help us think about the big picture.**
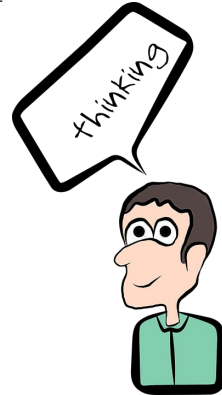
Today we'll be learning about a new programming construct that will allow us to hold as many pieces of information as we want within a single list. Before you jump back into your Makecode project, watch the following series of videos about Lists and Arrays:

Part 2:Accessing a List

Part 3: Assigning a Updating a List

Watch This Video over Data Abstraction and Arrays/Lists in Microsoft MakeCode,

which is an optional program that you can use for the Create Performance Task. You can

easily link to the Makecode Arcade here.

Open a page in the Computer science Notebook, and revisit your reflection from the previous day.

What did you find useful about Microsoft Makecode?

Is this an application that you could use for your Create Performance Task? Why or Why not? Do you feel differently than you did yesterday?