5.13 INTRODUCTION TO ARRAYS

Unit 5
Building Apps

WHOLE CLASS DISCUSSION

- What are the benefits of creating lists?
- Why is it helpful to keep information in lists?

WHOLE CLASS DISCUSSION

- Lists help us organize information
- Lists help us collect all the relevant information in one place
- List show that a lot of ideas are related
- Lists help us order or prioritize ideas
- Lists help us think about the big picture

INTRODUCTION TO ARRAYS

- There are a lot of benefits to keeping lists of information in real life and in programs.
- Right now, the only way we know how to store information in programs is with a variable, but each variable can only store a single piece of information.

Variables are a BAD way to store lists

- 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.

ACTIVITY

- Go to Stage 13 on Code Studio
- Watch video: https://studio.code.org/s/csp5/stage/13/puzzle/2
- Watch video: https://studio.code.org/s/csp5/stage/13/puzzle/5
- Watch video: https://studio.code.org/s/csp5/stage/13/puzzle/8
- Watch video: https://studio.code.org/s/csp5/stage/13/puzzle/16

- In class: Complete Puzzles 3-19
- Homework: My Favorite Things App…puzzles 20-28

VARIABLES VS LISTS (ARRAY) SUMMARY

- **Variables** are useful for holding a single piece of information/data.
  - Keeping the variables organized can be complicated and cumbersome
  - Can be impractical or impossible to keep track of all variables

- **List (Array)** is a container used to keep similar pieces of data organized in one place
  - An array can grow in size to accommodate more information.
  - Can add or replace items, access items, & remove items

- Arrays are slightly more complex to use. If you are only going to be storing a small and fixed amount of information it is probably appropriate to use multiple variables

ABSTRACTION REVISITED

- In many programming languages, it is likely that the items in an array are stored at many locations on your computer's hard drive, and the index is only useful to help the programmer identify different components.

- In this way, a JavaScript array is actually another example of **ABSTRACTION**. We know that it is holding a list of related information, but we don't need to think about the actual implementation details.

Is there a way to incorporate lists/arrays in your CREATE performance task for AP Board?