
Module

Data Types, Variables, and Constants

Lesson

Data Types, Variables, and Constants

Lecture

Data Types, Variables, and Constants

Remember from the previous lecture that everything in a computer is represented in binary

- What does 01000001 mean?
- It depends on how we interpret it
 - Could mean 65
 - Could mean A
 - Could mean a lot of other things!
- The data type of a variable or constant tells us how to interpret the bits

- Data type also determines the valid operations for the value
- Adding an integer to a true or false value doesn't make any sense

	⋮
40	01000001
41	11010101
42	00000000
43	01110101
44	10011001
45	01010101
	⋮

How do we get a space in memory, that we can refer to by name rather than memory address, with bits that will be interpreted the way we want them to be?

- When we declare a variable we provide the data type and the variable name
 - Optionally, we provide a value as well
- When we declare a constant we provide the data type, the constant name, and the value

- Recap
 - Data types tell us how to interpret the bits and what operations are valid for the value the bits represent
 - We declare variable and constants to get memory space for values we need to store