Parsing Values and Reading Input using System.console()

In the last video, we talked about static and instance fields, and methods, on the class.

We also talked about a concept called instantiating a class, which creates an object, or instance.

We'll be using both of these features in this video.

We're going to create an interactive application, where a user will enter their name, and year of birth, and then the application will calculate the current age of the user.

Before we start though, let's talk about parsing data.

Parsing Values and Reading Input using System.console()

When we read data in, from either a file, or from user input, it's common for the data to be initially a String, which we'll need to convert to a numeric value.

Let's review what happens when our numeric data is really a String.

You might remember we talked about this previously, when we talked about operators in Java.

You may remember that the plus symbol, means something different for numeric values, than it does for Strings.

You might also remember, that most of the other operators aren't applicable to Strings.

Let's look at a slide we've seen before.

Summary of Operators

Operator	Numeric types	char	boolean	String
+	Addition	Addition	n/a	Concatenation
-	Subtraction	Subtraction	n/a	n/a
*	Multiplication	Multiplication	n/a	n/a
/	Division	Division	n/a	n/a
%	Remainder (Modulus)	Remainder (Modulus)	n/a	n/a

Wrapper methods to parse strings to numeric values

You'll remember, we used the wrapper classes to get min and max values.

In this case, we're going to use a static method, on the wrapper class, to let that class do the transformation for us.

Wrapper	Wrapper Method
Integer	parseInt(String)
Double	parseDouble(String)

Reading data from the console

Technique	Description
System.in	Like System.out, Java provides System.in which can read input from the console or terminal. It's not easy to use for beginners, and lots of code has been built around it, to make it easier.
System.console	This is Java's solution for easier support for reading a single line and prompting user for information. Although this is easy to use, it doesn't work with I.D.E.'s because these environments disable it.
Command Line Arguments	This is calling the Java program and specifying data in the call. This is very commonly used but doesn't let us create an interactive application in a loop in Java.
Scanner	The Scanner class was built to be a common way to read input, either using System.in or a file. For beginners, it's much easier to understand than the bare bones System.in