

Getting Started with BlueJ

Variables and Mathematical Operators

- Let's learn some basic Java syntax!
1 min
- Shapes: Collections of Points
2 min
- Why Semantics: Motivation to Read Code
1 min
- Variables
2 min
- Mathematical Operators
2 min
- Practice Quiz:**
Variables and Mathematical Operators
3 questions

Functions and Conditionals

Classes, Types, and For Each Loops

Seven Steps for Solving Programming Problems

Now, let us look at another example which

Variables

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0:03

Hello. We're going to start learning to execute code with the most basic statements in Java and build up to more complex statements from there. Here, we have two variable declarations. One for an int called X, and one for an int called Y. If we execute these statements as is, we will create boxes labeled X and Y to hold the values we eventually decide to put in these variables. But in this example, we have not explicitly provided any initial values. In some languages such as C, no default value is ever provided when you declare a variable. Meaning, you get undefined behavior if you use an uninitialized variable. This is such a common and significant problem that Java provides two solutions: an initial default value of zero is given to instance variables, or an explicit error is given for using a local variable before initializing it. We will see these different types of variables in upcoming videos. [Now, let us look at another example which](#) initializes the variables when they are declared. Here, the first statement declares an int called X. Executing it makes a box for X and immediately assigns the value 4 to X. We show this by putting 4 in the box for X. Executing the next line, both creates a box for Y and puts the value 6 in that box. Combining the declaration and initialization of your variables into the same statement won't pose a problem in any language. And anyone reading your code knows exactly what you meant for the code to do. So this is a good habit to get into. Of course, variables are only useful if you make use of the value that they have. Here, the first code declares X and initializes it to 4. Next, Y declares and initializes it to X + 2. To perform this statement we must evaluate the expression on the right hand side of the equal sign. X is 4, so X + 2 is 4 + 2 or 6. We show this by creating a box for Y and putting 6 into it. The last statement creates a variable Z and initializes it to Y - X. So you would take the value of Z, which is 6, and the value of X, which is 4, and subtracts them to get 2. You would then create a box for Z and initialize it to 2. Great. Now, you know how to execute code with variable declarations and assignment statements.

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