Learning Objectives:
• Learn some big ideas about what "programming" is
• Learn the six tools in the programming toolbox
• Explore the first three tools in detail:
  • I/O
  • variables
  • calculation

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Computer programs, especially large ones, can be very, very complex. It is remarkable, therefore, that all of them are ultimately composed of the same set of simple building blocks. We call these "the _____________ _________."

Every programming language supports these same six tools, just in different ways. These tools are the components of an algorithm, and writing a program involves two parts:
1. Constructing an _____________ to solve your problem.
2. _____________ that algorithm into a ___________ _________.

Most programmers do those two steps at once, in interleaved fashion. That's what we'll do here.

The six tools in the toolbox are:
1. __/__ (input/output)
2. ___________ (information holders)
3. ___________ 
4. ___________ ("if")
5. ___________ (functions, subroutines)
6. ___________ (loops)

Every program of any significant size or complexity involves all six of these tools. Think of them like the parts of speech (noun, verb, adjective, etc.) -- you can't write anything of any length in any language without using all of them together.
Variables

Variables are the heart and soul of programming. Each variable stores a little piece of information that the program can refer to and use in calculations. Variables actually correspond to tiny storage locations in your computer's memory (or "RAM").

Every variable has a ________, a __________, and a ________.

A variable can hold any ____________, or a short _______ or _____________.

A program can have many variables at once, which do not ______________ with each other.

A variable holds only one ____________ at a time. It keeps it until changed by the program later on. When changed, it ______________ the old value forever.

Variables are created in JavaScript by using the word "______" followed by the variable's name. (Use lowercase for names, or camelCase for multi-word names.)

Examples:

    var shoeSize = 13;
    var president = "Obama";
    var gpa = 3.12;

Note that the values (not names) of text variables are enclosed in double-quotes.
One way to solicit input from the user is the prompt command:

```javascript
var faveColor = prompt("What's your favorite color?");
```

If the value the user gives is expected to be an integer (whole number), enclose this with the `parseInt` command:

```javascript
var nationalDebt = parseInt(prompt("How much do we owe?
```

(Notice the two closing parentheses at the end of that line, one for the "prompt" and the other for the "parseInt".)
We can string together multiple bits of text using a plus sign:

```javascript
alert("Your name is " + firstName + " " + lastName + ".");
document.writeln("Shakespeare wrote " + numPlays + " plays.");
```

This operation is called "______________." 

If you have a number that you want to truncate to some number of decimal places, append the ____________ function to it:

```javascript
document.writeln("The Redskins' winning percentage is " + winPercentage.toFixed(3));
```
Calculation

To perform calculations on numeric variables, use + for addition, - for subtraction, * (not x) for multiplication, and / (not \) for division.

You can use parentheses to group expressions together, just like in algebra.