

JavaScript Jumpstart

- Since there's nothing like doing things yourself, we start by having you dive right in with typing in, and running, some simple JavaScript programs
- For now, don't worry about fully understanding them; we just want to make sure that you get the feel for how to type them into the computer then make the computer do their bidding
- At this stage, your most likely issues with these programs will be typos, so watch what you type

How does one run JavaScript? Let us list the ways...

- Most browsers will accept JavaScript in the location bar: type `javascript:` followed by the code to run (in one line)
- Visit the *scratch*, *runner*, or *playground* pages on `http://javascript.cs.lmu.edu`, type in some code, then click *Run*
- Look for a “JavaScript console” add-on or web site, type in some code, then press *Enter* or *Return*
- Prepare a web page with JavaScript in it, then load that web page into a web browser

The last mechanism (JavaScript-in-a-web-page) is the way “the pros” do it — but it's also the most complicated. We'll get to that after you're used to the simpler ways.

On to Some JavaScript Code

- The following examples give you a taste of what JavaScript can do; type them in *exactly* as shown
- Two types of code are shown — the first set is meant to be typed into your web browser's location text field; the second is meant to be typed into the text area on any of these <http://javascript.cs.lmu.edu> pages:
 - ◇ <http://javascript.cs.lmu.edu/scratch>
 - ◇ <http://javascript.cs.lmu.edu/runner>
 - ◇ <http://javascript.cs.lmu.edu/playground>

For Your Browser's Address/Location Text Field

Each line is a separate program:

```
javascript:alert("Hello world!");  
javascript:alert("Hello " + prompt("What is your name?") + "!");  
javascript:alert("10 times 10 times 10 = " + (10 * 10 * 10));  
javascript:alert("This is how a computer shouts!".toUpperCase());  
javascript>window.document.body.innerHTML = "This page is mine!";  
javascript>window.document.location = "http://www.facebook.com";  
javascript:(new Function(prompt("Type some JavaScript:")))(C);
```

For the JavaScript Scratch/ Runner/Playground Page

Type these examples into the text area and click on *Run*. You can run without retyping by clicking on *Run* again. And again. And again :)

Blank lines separate the individual programs; you can also run them all in sequence by typing all of them into the text area (that's a lot of typing!):

```
alert("Your computer dice just rolled a " +
      (Math.floor(Math.random() * 12) + 1) + "!");

alert("I like " + prompt("Please enter a city:") + " in " +
      prompt("Please enter a month:") + ", how about you?");

alert("Hello world!");

var text = prompt("Type something for me to count:");
alert("'" + text + "' has a length of " + text.length() + ".");

var value = parseFloat(prompt("Type a number for me to double:"));
alert(value + " doubled is " + (value * 2) + "!");

var score = parseFloat(prompt("Give me a test score:"));
var total = parseFloat(prompt("Out of how many points?"));
alert("That's " + ((score / total) * 100) + "%!");

var answer = Math.floor(Math.random() * 3) + 1;
var guess = parseInt(prompt("Guess a number from 1 to 3:"));
alert(((guess === answer) ? "Yes!" : "Sorry!")
      + " I had " + answer + ", and you guessed " + guess + ".");

if (Math.floor(Math.random() * 2) === 0) {
    alert("Heads!");
} else {
    alert("Tails!");
}
```

Comments

- Ironically, one of the first good habits that you should pick up is how to enter something into a program that the computer will *ignore*
- Ignored text items in your code are called *comments*: they are messages not for the computer, but for the *human being* who is reading the code
- Anything between `/*` and `*/` is a comment, and can be as many lines as you like
- Anything after `//` is a comment, up to the end of the line

- Try typing comments into any of the programs above; you'll notice that they don't affect their behavior at all, such as with this modified heads-or-tails picker:

```
// We use 0 to represent heads, and 1 to represent tails.
if (Math.floor(Math.random() * 2) === 0) {
    alert("Heads!"); // The computer randomly chose 0.
} else {
    alert("Tails!"); /* The computer randomly chose 1;
                    no other number is possible! */
}
```

- You may ask — *what are these for???* The answer is: when programs start getting more complicated, the person reading the program might need some help with understanding it...comments are the “first line of information” when trying to understand a program (after the code itself, of course)

Other Jumpstart Fundamentals

In case you want to dabble further...*Right. Now.*

- Programming languages also need punctuation; in JavaScript, use semicolons (;) to separate statements
- Remember that anything entered via prompt is interpreted as text — use `parseInt` or `parseFloat` to convert them into numbers
- You won't mess up your computer by entering code it doesn't understand — so feel free to experiment; just ask me if you get stuck

Moving Forward

- Feel free to tweak the examples you've seen — say, to customize the messages that are shown, or to do something different with what the user enters
- <http://javascript.cs.lmu.edu> contains some more complicated programs that have been “pre-typed” for you — give them a try:
 - ◆ <http://javascript.cs.lmu.edu/scratch/phrase-to-phone>
 - ◆ <http://javascript.cs.lmu.edu/scratch/phone-to-phrase>