NEW PERSPECTIVES

HTML5, CSS3, and JavaScript

6ᵗʰ Edition

Tutorial 9

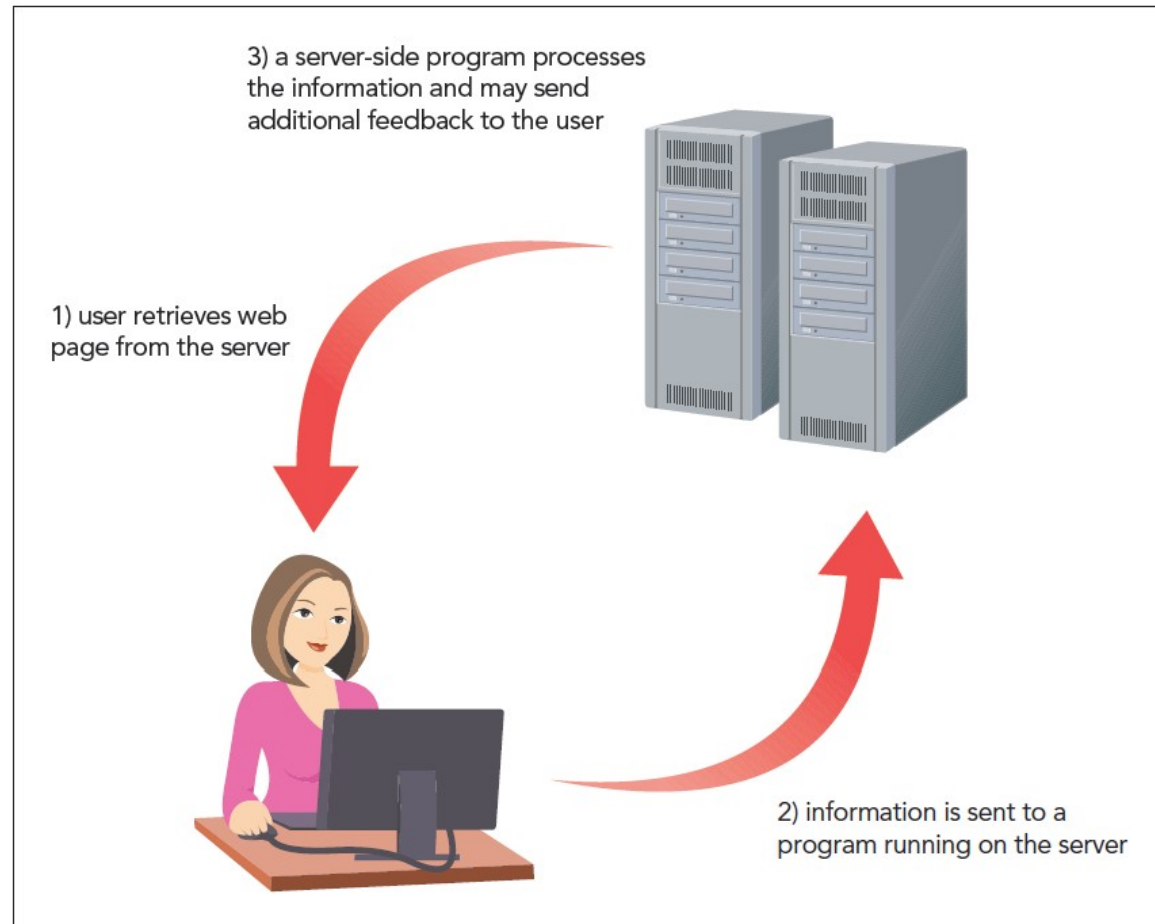# Getting Started with JavaScript

Objectives

- Insert a script element
- Write JavaScript comments
- Display an alert dialog box
- Intro to JQuery

Server-Side and Client-Side Programming – 1/4

- **Server-side programming:** Program code runs from the server hosting the website
- Advantage
  - Connects a server to an online database containing information not directly accessible to end users
- Disadvantages
  - Use server resources and requires Internet access
  - Long delays in cases of system over-load

Server-Side and Client-Side Programming – 2/4

Figure 9-1   Server-side programming

3) a server-side program processes the information and may send additional feedback to the user

1) user retrieves web page from the server

2) information is sent to a program running on the server
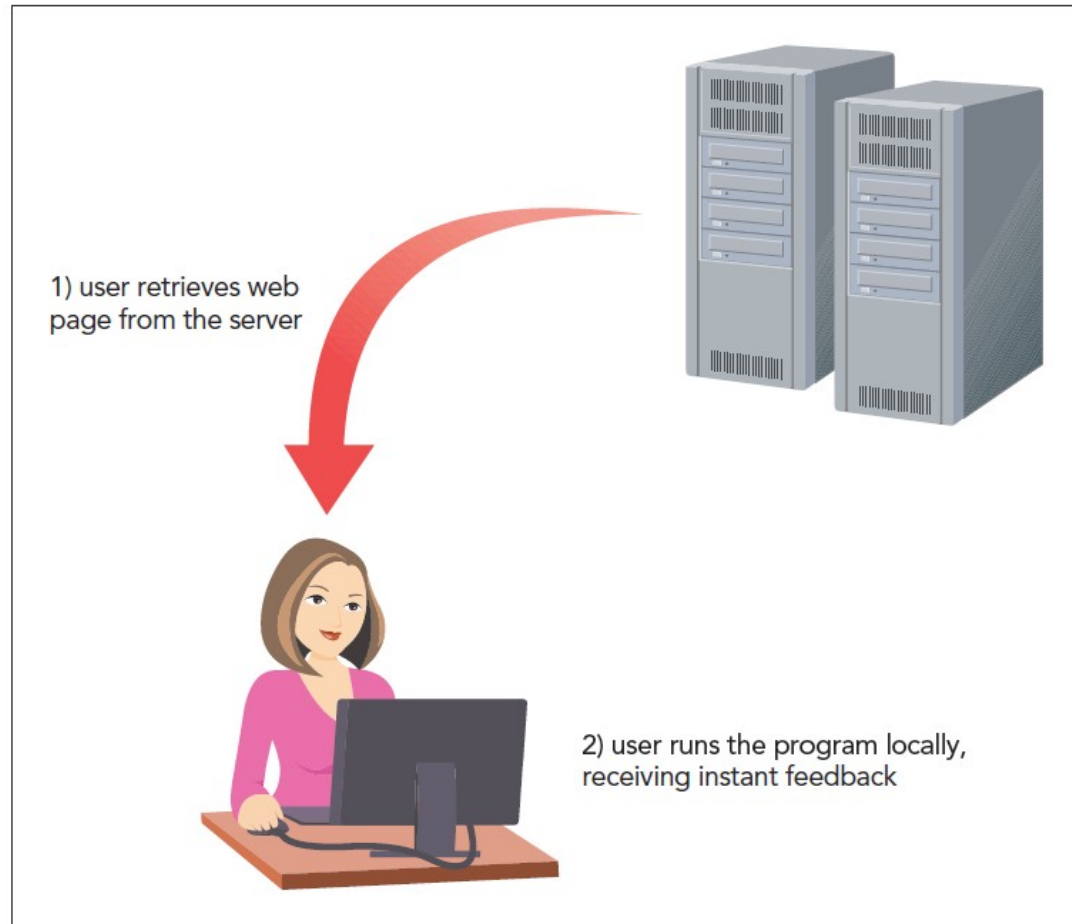
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Server-Side and Client-Side Programming – 3/4

- **Client-side programming:** Programs run on the user's computer using downloaded scripts with HTML and CSS files

- Distributes load to avoid overloading of program-related requests

- Client-side programs can never replace server-side programming

Server-Side and Client-Side Programming – 4/4

Figure 9-2   Client-side programming

1) user retrieves web
page from the server

2) user runs the program locally,
receiving instant feedback

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The Development of JavaScript

- **JavaScript** is a programming language for client-side programs

- It is an **interpreted language** that executes a program code without using an application

- **Compiler** is an application that translates a program code into machine language

- JavaScript code can be directly inserted into or linked to an HTML file

Working with the `script` Element

- JavaScript code is attached to an HTML file using the `script` element

  ```
  <script src="url"></script>
  ```

  where *url* is the URL of the external file containing the JavaScript code

- An **embedded script** can be used instead of an external file by omitting the `src` attribute

  ```
  <script>
      code
  </script>
  ```

Loading the `script` Element – 1/2

- `script` element can be placed anywhere within an HTML document

- When a browser encounters a script, it immediately stops loading the page and begins loading and then processing the script commands

- `async` and `defer` attributes can be added to `script` element to modify its sequence of processing

Loading the `script` Element – 2/2

- `async` attribute tells a browser to parse the HTML and JavaScript code together

- `defer` attribute defers script processing until after the page has been completely parsed and loaded

- `async` and `defer` attributes are ignored for embedded scripts

Inserting the `script` Element

Figure 9-4   Inserting the script element

```
<title>Tulsa's New Year's Bash</title>
<link href="tny_reset.css" rel="stylesheet" />
<link href="tny_styles.css" rel="stylesheet" />
<script src="tny_script.js" defer></script>
</head>
```

source of the JavaScript file

defers loading the script file until after the rest of the page is loaded by the browser

Creating a JavaScript Program – 1/6

- JavaScript programs are created using a standard text editor

- Adding Comments to your JavaScript Code
  - Comments help understand the design and purpose of programs
  - JavaScript comments can be entered on single or multiple lines

Creating a JavaScript Program – 2/6

- Syntax of a single-line comment is as follows:

```
// comment text
```

- Syntax of multiple-line comments is as follows:

```
/*

   comment text spanning

   several lines

*/
```
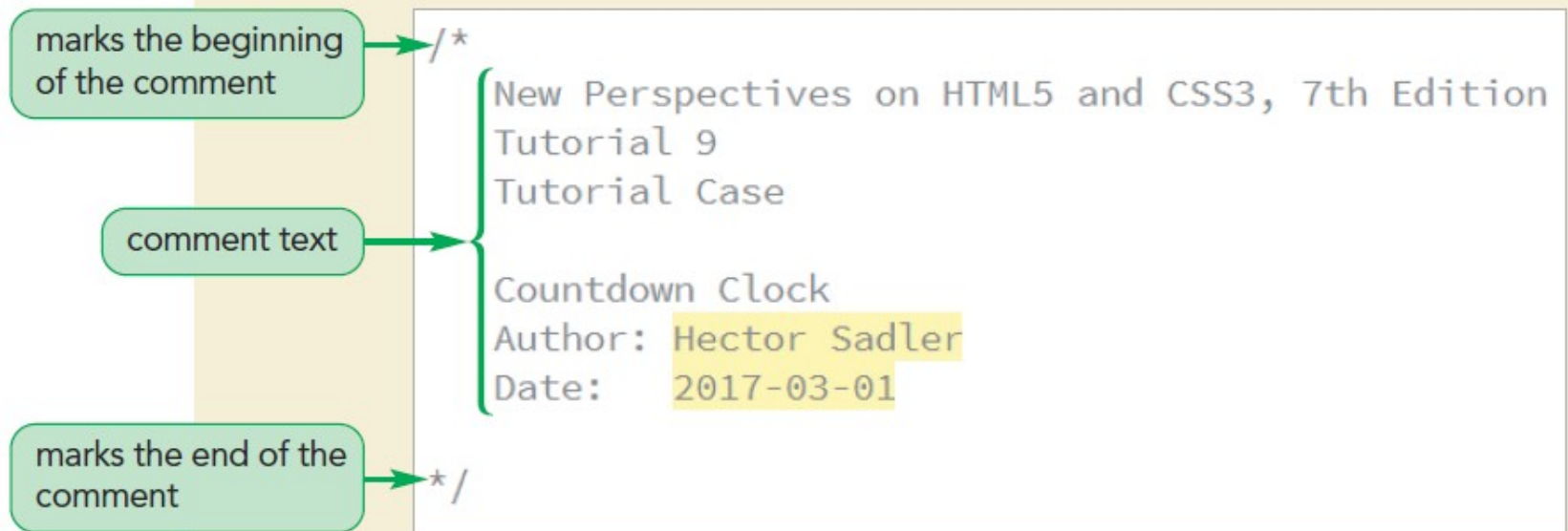
Creating a JavaScript Program – 3/6

Figure 9-6 | Adding a JavaScript comment

marks the beginning of the comment → `/*`

```
New Perspectives on HTML5 and CSS3, 7th Edition
Tutorial 9
Tutorial Case

Countdown Clock
Author:   Hector Sadler
Date:     2017-03-01
```

comment text →

marks the end of the comment → `*/`

Creating a JavaScript Program – 4/6

- Writing a JavaScript Command
  - A command indicates an action for a browser to take
  - A command should end in a semicolon

  ```
  JavaScript command;
  ```

Creating a JavaScript Program – 5/6
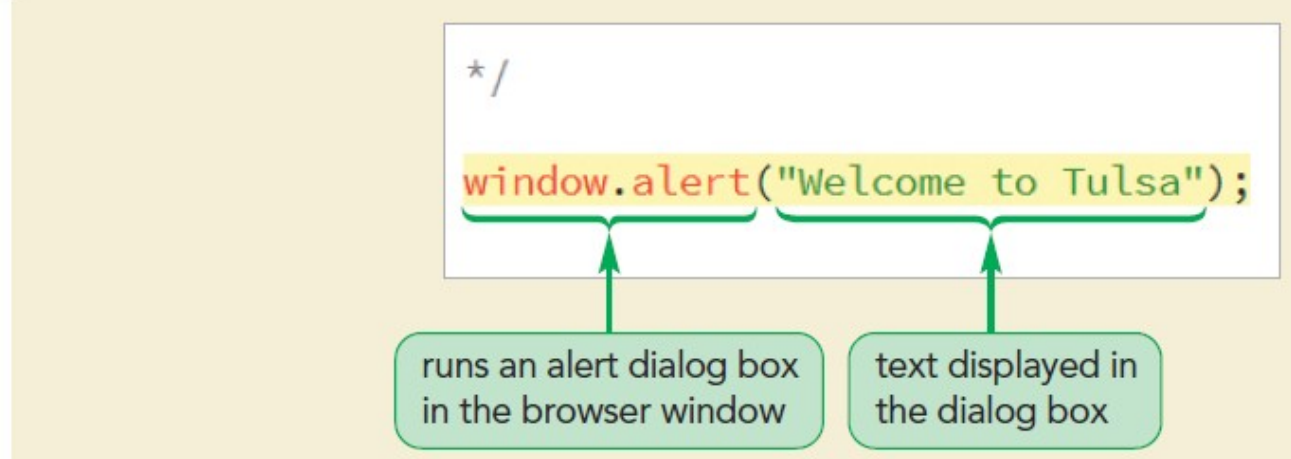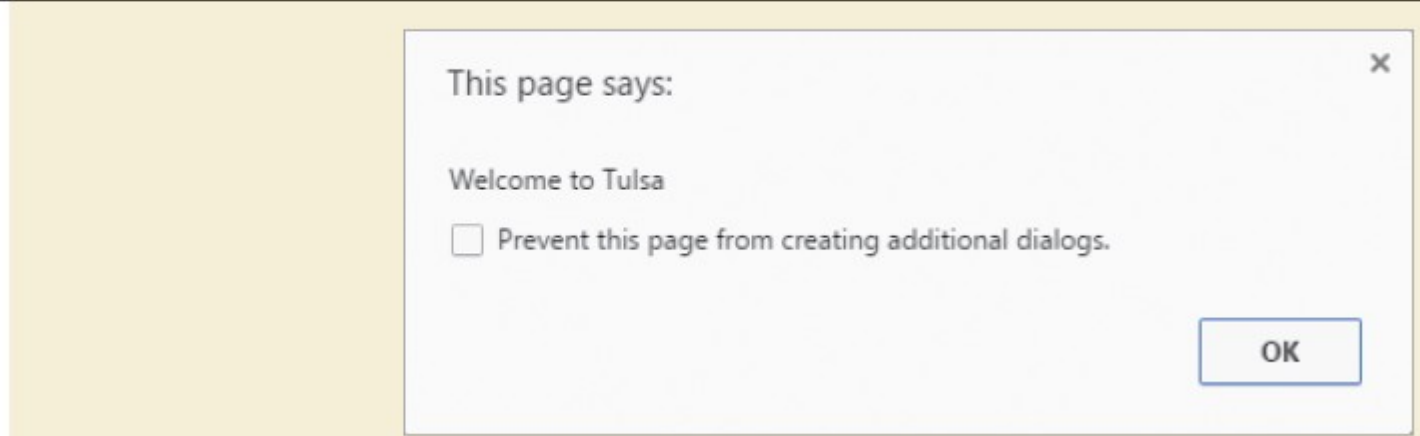
Figure 9-7 Displaying a dialog box

```
*/

window.alert("Welcome to Tulsa");
```

runs an alert dialog box in the browser window

text displayed in the dialog box

Figure 9-8 Google Chrome dialog box

This page says:

Welcome to Tulsa

☐ Prevent this page from creating additional dialogs.

OK

✕

Creating a JavaScript Program – 6/6

- Understanding JavaScript Syntax
  - JavaScript is case sensitive
  - Extra white space between commands is ignored
  - Line breaks placed within the name of a JavaScript command or a quoted text string cause an error