44-563 Web Services Technology Fall 2010

Exam 2 Version 2

Part 1 JavaScript

Questions 1-10 refer to the web page shown below.

**<body id="myPage">**

**GPA: <input type="text" id="gpa" /><br />**

**Scholarship: <input type="text" id="scholarship" disabled="disabled" />**

**<br />**

**<img id="dogImage" src="young.jpg" alt="Dog Picture" /><br />**

**<select name="greeting" id="greeting">**

**<option value="hi">Hello</option>**

**<option value="bye">Goodbye</option>**

**</select>**

**<br />**

**<input type="radio" name="size" id="smallSize" value="small" />**

**Small**

**<br />**

**<input type="radio" name="size" id="largeSize" value="large" />**

**Large**

**<br />**

**<input type="checkbox" name="salt" id="salt" value="yes" />**

**Salt**

**<br />**

**<input type="checkbox" name="pepper" id="pepper" value="yes" />**

**Pepper**

**<br />**

**<ol id="flavors">**

**<li>Vanilla</li>**

**<li>Chocolate</li>**

**<li>Strawberry</li>**

**</ol>**

**<input type="button" id="theButton" value="Click Here" />**

**<p id="message"></p>**

**</body>**

1. (a) (5 pts) Write JavaScript code to assign the value the user entered in the gpa input box to the variable gpaString.

var gpaString = document.getElementById("gpa").value;

(b) (4 pts) Write JavaScript code to convert the value stored in gpaString to a float and store it in the variable gpaFloat.

var gpaFloat = parseFloat(gpaString);

(c) (8 pts) Write JavaScript code to set the text in the scholarship input box to "Yes" if the value in gpaFloat is greater than 3.3, and to "No" otherwise.

if (gpaFloat > 3.3) {

document.getElementById("scholarship").value = "Yes";

} else {

document.getElementById("scholarship").value = "No";

}

2. (5 pts) Write JavaScript code to assign the function doCalculations as the event handler for clicking the button.

document.getElementById("theButton").onclick = doCalculations;

3. (5 pts) Write JavaScript code to assign the value selected by the user in the dropdown list to the variable howdy.

var howdy = document.getElementById("greeting").value;

4. (8 pts) Write JavaScript code to assign the variable drinkSize the value 16 or 24, depending upon whether the user clicked on the small or large radio button.

var drinkSize;

if (document.getElementById("smallSize").checked) {

drinkSize = 16;

} else if (document.getElementById("largeSize").checked) {

drinkSize = 24;

}

5. (8 pts) Write JavaScript code to assign the variable seasoning the value "s" if only salt is checked, "p" if only pepper is checked, "sp" if both are checked, and "" if neither is checked.

var seasoning = "";

if (document.getElementById("salt").checked) {

seasoning = seasoning + "s";

}

if (document.getElementById("pepper").checked) {

seasoning = seasoning + "p";

}

6. (5 pts) Write JavaScript code to insert the text "I am a paragraph." in the paragraph element at the end of the web page.

document.getElementById("message").innerHTML = "I am a paragraph.";

7. (5 pts) Write JavaScript code to change the image to cat.jpg.

document.getElementById("dogImage").src = "cat.jpg";

8. (5 pts) Write JavaScript code to change the background color of the web page to red.

document.getElementById("myPage").style.backgroundColor = "red";

9. (8 pts) Write JavaScript code to add the flavor Cherry to end of the ordered list.

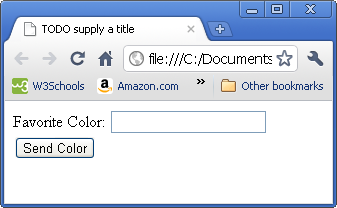
var item = document.createElement("li");

item.appendChild(document.createTextNode("Cherry"));

document.getElementById("flavors").appendChild(item);

Part 2 Servlets

10. (10 pts) Write html code (only what goes between <body> and </body>) for the web page shown below. The web page contains a form. When the button is clicked, the servlet processColor handles the request.



<body>

<form action="processColor">

Favorite Color: <input type="text" name="userColor" /><br />

<input type="submit" value="Send Color" />

</form>

</body>

11. (5 pts) Write servlet code that would assign the value of the request parameter named good**bye** to the String variable **farewell**.

String farewell = request.getParameter("goodbye");

Part 3 AJAX

The code in the questions is from the CourseList AJAX example covered in class. The user selects a subject, a list of courses in that subject is obtained from a servlet, and the list is displayed in the unordered list on the web page.

12. Here is part of the code for the web page:

**<p>**

**Select Subject:<br />**

**<select id="subject">**

**<option value="cs">Computer Science</option>**

**<option value="math">Math</option>**

**<option value="physics">Physics</option>**

**</select>**

**</p>**

**<p>**

**<input type=" " id="getCourseList"**

**value="Find Available Courses" /><br />**

**</p>**

**<ul id="courseList"></ul>**

(a) (3 pts) Does this code have to be inside a <form> tag?

YES NO

(b) (3 pts) What value should be used for the type of the input element?

button submit

13. Here is the header for the servlet:

**@WebServlet(name="CourseServlet",**

**urlPatterns={"/courses"})**

**public class CourseServlet extends HttpServlet {**

and here is the code for the action handler for the button:

**function getCourses() {**

**clearCourses();**

**request = createRequest();**

**if (request == null) {**

**alert("Unable to create request");**

**return;**

**}**

**var url = // See part (a)**

**request.open("GET", url, true);**

**request.onreadystatechange = displayCourses;**

**request.send(null);**

**}**

(a) (5 pts) Complete the code that assigns a value to the variable url. Be sure to include the request parameter.

var url = "courses?subject=" + document.getElementById("subject").value;

(b) (3 pts) What is the name of the callback function? displayCourses

14. (5 pts) Here is part of the code for the callback function:

**if (request.readyState == 4) {**

**if (request.status == 200) {**

**var courses = // See question below**

**var courseList = courses.split("\n");**

**for(var i = 0; i < courseList.length - 1; ++i) {**

**var item = document.createElement("li");**

Complete the statement that assigns the information returned from the server to the variable courses.

var courses = request.responseText;

**ADDITIONAL SPACE**