Final Exam
CIS 228: The Internet
Prof. St. John
Lehman College
City University of New York
12 December 2007

NAME (Printed) __________________________________________
NAME (Signed) __________________________________________
E-mail _________________________________________________

Exam Rules
• Show all your work. Your grade will be based on the work shown.
• The exam is closed book and closed notes.
• When taking the exam, you may have with you pens or pencils, and an 8
  1/2” x 11” piece of paper filled with notes, programs, etc.
• You may not use a computer or calculator.
• All books and bags must be left at the front of the classroom during this
  exam.
• Do not open this exam until instructed to do so.

<table>
<thead>
<tr>
<th>Question 1</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Question 2</td>
<td></td>
</tr>
<tr>
<td>Question 3</td>
<td></td>
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<tr>
<td>Question 4</td>
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<td>Question 5</td>
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<td>Question 6</td>
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<td>Question 7</td>
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<tr>
<td>Question 8</td>
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<td>Question 9</td>
<td></td>
</tr>
<tr>
<td>Question 10</td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
</tr>
</tbody>
</table>

(Blue exam)
1. True or False:

(a) ___ Opening tags can have attributes.
(b) ___ An empty element consists of only one tag.
(c) ___ You cannot use more than one attribute at a time for the <a> element.
(d) ___ JPEG is a "lossless" format for presenting images.
(e) ___ Strict HTML style is the same as XHTML style.
(f) ___ The document type tag (<doctype>) is used to tell the browser which version of HTML your web page is written in.
(g) ___ The META tag is not needed to the transitional XHTML 1.0.
(h) ___ A <span> elements joins up pieces created by the <div> element.
(i) ___ You can nest tables inside tables.
(j) ___ In JavaScript, arrays can be of any length.

2. Answer in two sentences or less the following:

(a) What is HTML? What is it used for?

(b) What is CSS? What is it used for?

(c) What is the difference between them?

3. Fill in the following table with the corresponding decimal or hexcode representation of the number. For partial credit, show your work.

<table>
<thead>
<tr>
<th>Decimal</th>
<th>Hexcode</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>#15</td>
</tr>
<tr>
<td>31</td>
<td>#aa</td>
</tr>
<tr>
<td></td>
<td>#f1</td>
</tr>
</tbody>
</table>
4. What does the following JavaScript code do? Write the ending value for each variable in the box below. (Show your work for partial credit.)

```javascript
var meenie, miney, moe = 3, all = "it’s ";

meenie = moe +2;
miney = meenie % moe;
all = all+moe+"!";
moe--;```

<table>
<thead>
<tr>
<th>meenie</th>
<th>miney</th>
<th>moe</th>
<th>all</th>
</tr>
</thead>
</table>

5. Write Javascript functions that will do the following:

(a) Say ‘hello world.’’

(b) Take as input a number, digit, and return true if digit is less than 16, otherwise return false.

(c) Prompt the user for their grades on the last 10 assignments and tell them the average of their grades.
6. Be the browser with the following HTML and CSS files. On the following page of the exam, draw the page and indicate any style (color, borders, etc) on your page:

**HTML:**

```html
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd">
<html xmlns="http://www.w3.org/1999/xhtml" lang="en" xml:lang="en">
<head>
<meta http-equiv="Content-Type" content="text/html; charset=ISO-8859-1" />
<title>Starbuzz Coffee</title>
<link rel="stylesheet" type="text/css" href="starbuzz.css" />
</head>
<body>
<div id="header">
<img src="images/header.gif" alt="Starbuzz Coffee header image" />
</div>
<div id="drinks">
<h1>BEVERAGES</h1>
<p>House Blend, $1.49</p>
<p>Mocha Cafe Latte, $2.35</p>
<p>Cappuccino, $1.89</p>
</div>
<div id="sidebar">
<p class="beanheading">
<img src="images/bag.gif" alt="Bean Machine bag" />
ORDER ONLINE with the <a href="form.html">BEAN MACHINE</a>.
<span class="slogan">FAST<br />FRESH<br />TO YOUR DOOR</span>
</p>
<p>Why wait? You can order all our fine coffees right from the Internet with our new, automated Bean Machine.</p>
</div>
<div id="main">
<h1>QUALITY COFFEE, QUALITY CAFFEINE</h1>
<p>At Starbuzz Coffee, we are dedicated to filling all your caffeine needs through our quality coffees and teas.</p>
<h1>OUR STORY</h1>
<p>"A man, a plan, a coffee bean". Okay, that doesn't make a palindrome, but it resulted in a damn good cup of coffee. Starbuzz's CEO is that man, and you already know his plan: a Starbuzz on every corner.</p>
<h1>STARBUZZ COFFEE BEVERAGES</h1>
<p>We've got a variety of caffeinated beverages to choose from at Starbuzz, including our <a href="beverages.html#house" title="House Blend">House Blend</a>, <a href="beverages.html#mocha" title="Mocha Cafe Latte">Mocha Cafe Latte</a>, <a href="beverages.html#cappuccino" title="Cappuccino">Cappuccino</a>, and a favorite of our customers, <a href="beverages.html#chai" title="Chai Tea">Chai Tea</a>.</p>
</div>
<div id="footer">
© 2005, Starbuzz Coffee
<br />
All trademarks and registered trademarks appearing on this site are the property of their respective owners.
</div>
</body>
</html>
```

**CSS:**

```css
body {
  background-color: #b5a789;
  font-family: Georgia, "Times New Roman", Times, serif;
  font-size: small;
  margin: 0px;
}
#main {
  background: #afe5d0 url(images/background.gif) top left;
  font-size: 105%;
  padding: 15px;
  margin: 0px 10px 10px 10px;
}
#sidebar {
  background: #afe5d0 url(images/background.gif) bottom right;
  font-size: 105%;
  padding: 15px;
  margin: 0px 10px 10px 10px;
}
#footer {
  background-color: #675c47;
  color: #afe5d0;
  text-align: center;
  line-height: 1.8em;
  padding: 15px;
  margin: 0px 10px 10px 10px;
}
#header {
  background-color: #675c47;
  margin: 10px;
  height: 108px;
}
#drinks {
  background: #efe5d0 url(images/background.gif) top left;
  font-size: 105%;
  padding: 15px;
  margin: 0px 10px 10px 10px;
}
#sidebar {
  float: right;
  width: 180px;
}
#main {
  margin-right: 230px;
  margin-left: 165px;
}
#drinks {
  float: left;
  width: 115px;
}
#footer {
  clear: both;
}
```

7. Write the HTML code for the table with the following information. Include any style rules needed to display the table:

<table>
<thead>
<tr>
<th>Section</th>
<th>Code</th>
<th>Open Seats</th>
<th>Day and Time</th>
<th>Instructor</th>
<th>Bldg/Rm</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>0292</td>
<td>13</td>
<td>T,TH 4:00 - 5:50 PM</td>
<td>Wilson, E.</td>
<td>GI/207</td>
</tr>
<tr>
<td>02</td>
<td>0293</td>
<td>14</td>
<td>T,TH 11:00 - 12:50 PM</td>
<td>St John, K.</td>
<td>GI/217</td>
</tr>
<tr>
<td>03</td>
<td>0294</td>
<td>3</td>
<td>S 9:00 - 12:30 PM</td>
<td>Krishnakumar, P.</td>
<td>GI/217</td>
</tr>
</tbody>
</table>
8. Write the style sheet that will arrange the following page: fonts should be sans-serif, headings should be gray, the elixirs sidebar should be on the right side of the page, the footer should not overlap other sections of the page, CD names should be boldface, and the artists' names should be in italic. (Hint: Do not change any of the HTML code.)

<html xmlns="http://www.w3.org/1999/xhtml" lang="en" xml:lang="en">
<head>
<meta http-equiv="Content-Type" content="text/html; charset=ISO-8859-1" />
<title>Head First Lounge</title>
<link type="text/css" rel="stylesheet" href="lounge.css" media="screen" />
</head>
<body>
<p><img src="images/logo.gif" alt="Head First Lounge" /></p>
<div id="elixirs">
<h2>Weekly Elixir Specials</h2>
<h3>Lemon Breeze</h3>
<p>The ultimate healthy drink, this elixir combines herbal botanicals, minerals, and vitamins with a twist of lemon.</p>
<h3>Chai Chiller</h3>
<p>Not your traditional chai, this elixir mixes chai spices and adds an extra chocolate kick for a caffeinated taste sensation.</p>
<p>Join us any evening for these and all our other wonderful <a href="beverages/elixir.html" title="Head First Lounge Elixirs">elixirs</a>.</p>
</div>
<h1>Welcome to the Head First Lounge</h1>
<p>The Head First Lounge is, no doubt, the biggest trendsetter in Webville.</p>
<p>During your stay at the lounge, you'll enjoy a smooth mixture of ambient and mystic sounds.</p>
<p><span id="guarantee">Our guarantee: at the lounge, we're committed to providing you, our guest, with an exceptional experience every time you visit.</span></p>
<p>But that's not all; at night, join us in the backroom as our resident DJ spins a choice selection of trance and drum&amp;bass beats across our spacious tiki-themed dance floor.</p>
<p><span id="direct">How you've experienced the lounge <em>virtually</em>, isn't it time to check us out <em>for real</em>? We're located right in the heart of Webville, and we've created some <a href="about/directions.html" title="Detailed Directions to the Lounge">detailed directions</a>.</span></p>
<h2>What's playing at the Lounge</h2>
<p>We're frequently asked about the music we play at the lounge, and no wonder,</p>
<div id="footer">
<p>Copyright 2006, Head First Lounge</p>
</div>
</body>
</html>
9. Create a form for ordering ice cream from the “228 Ice Cream Shop.” Your form should have the following choices (the name used by the web application is included in parenthesis):

- first and last names (fname and lname)
- type of ice cream cone (cone)
- kind of ice cream (iceCream),
- extra toppings (extras[]), and
- a text area for comments and special instructions (comments)

For the first four, you should allow only one answer (i.e. radio buttons or pull-down menu), while for extras (i.e. sprinkles, whipped cream, etc), multiple answers are expected (i.e. checkboxes).

The web application for processing the form is located at:
http://comet.lehman.cuny.edu/stjohn/teaching/cis228/order.php
10. Write a COMPLETE file that does the following:

- Uses cookies to keep track of when the user has visited in the last year.
- If this is the first visit, the user is prompted for their name and the program replies that it is nice to meet them, using their name (i.e. if they say their name is “Herbert”, the program then says, “Nice to meet you, Herbert”). Store their name in a cookie.
- If this isn’t their first visit, then welcome them back to the page. For example, if the name stored in the cookie is “Lehman”, you would say “Welcome back, Lehman!”.
- You can assume that the following functions have been written for you: `setCookie(name, value, days), getCookie(name), and delCookie(name).`