

ANSWER KEY
Final Examination
CIS 228: The Internet
Prof. St. John
Lehman College
City University of New York
22 May 2008

1. True or False:

- (a) T `` is an example of an empty tag.
- (b) F You can only use words, not images, as the label for a link.
- (c) T “..” means “parent folder.”
- (d) F You cannot use more than one attribute at a time for the `<a>` element.
- (e) F JPEG is a “lossless” format for presenting images.
- (f) F The `alt` attribute for images is required in strict HTML, but not in XHTML.
- (g) T Tables can be nested inside tables.
- (h) F In CSS, font size can only be specified by the pixel height of the font.
- (i) T The fonts the user sees depends on what fonts are loaded on their computer.
- (j) T JavaScript functions cannot call other functions

2. Answer in two sentences or less the following:

- (a) What is HTML? What is it used for?
HTML stands for HyperText Markup Language and is used for setting up the structure of a webpage.
- (b) What is CSS? What is it used for?
CSS stands for Cascading Style Sheets and it used for adding style to a webpage.
- (c) What is the difference between them?
HTML provides the structure for the webpage, and CSS provides the style.

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

Decimal	Hexcode
14	D
20	#14
49	31
42	#2a
175	#ae

Scratch work: $\#14 = 1 \cdot 16 + 4 = 20$
 $49 / 16 = 3$ remainder 1
 $\#2a = 2 \cdot 16 + \#a = 32 + 10 = 42$
 $\#ae = \#a \cdot 16 + \#f = 10 \cdot 16 + 15 = 160 + 15 = 175$

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.)

```
var meg = 24, jo, beth = "urie", amy;
```

```
jo = meg - 2;  
amy = meg/2;  
beth = "la" + "'s" + " friend";  
meg--;
```

meg	jo	beth	amy
23	22	‘‘laurie’s friend’’	12

5. Write Javascript **functions** that will do the following:

- (a) Say ‘‘Hi Mom’’

```
function greeting() {  
    alert("Hi Mom");  
}
```

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

```
function testDigit(digit) {  
    if ( digit < 16 )  
        return true;  
    else  
        return false;  
}
```

- (c) Prompt the user for their grades on the last 10 assignments and tell them the **sum** of their grades.

```
function enterGrades() {  
    var i, sum = 0, grades = new Array;  
  
    for (i = 0; i < 5; i++){  
        grades[i] = prompt("Please enter grade for assignment "+ i+":");  
    }  
}
```

```

        sum = sum + parseInt(grades[i]);
    }
    alert("The sum is " + sum + ".");
}

```

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>
<head>
  <title>Duncan's Just-In-Time Donuts</title>

  <link rel="stylesheet" type="text/css" href="donuts.css" />

  <script type="text/javascript">
    function updateOrder() {
      const TAXRATE;
      const DONUTPRICE;
      var numCakeDonuts = document.getElementById("cakedonuts").value;
      var numGlazedDonuts = document.getElementById("glazeddonuts").value;
      var subTotal = (numCakeDonuts + numGlazedDonuts) * DONUTPRICE;
      var tax = subTotal * TAXRATE;
      var total = subTotal + tax;
      document.getElementById("subtotal").value = "$" + subTotal.toFixed(2);
      document.getElementById("tax").value = "$" + tax.toFixed(2);
      document.getElementById("total").value = "$" + total.toFixed(2);
    }

    function placeOrder(form) {
      // Submit the order to the server
      form.submit();
    }
  </script>
</head>

<body>

  <div id="frame">
    <div class="heading">Duncan's Just-In-Time Donuts</div>
    <div class="subheading">All donuts 50 cents each, cake or glazed!</div>
    <div id="left">
      
    </div>
    <form name="orderform" action="donuts.php" method="POST">
      <div class="field">

        Name: <input type="text" id="name" name="name" value="" />
      </div>
      <div class="field">
        # of cake donuts: <input type="text" id="cakedonuts" name="cakedonuts" value=""
          onchange="updateOrder();" />
      </div>
      <div class="field">
        # of glazed donuts: <input type="text" id="glazeddonuts" name="glazeddonuts" value=""
          onchange="updateOrder();" />
      </div>
      <div class="field">
        Minutes 'til pickup: <input type="text" id="pickupminutes" name="pickupminutes" value="" />
      </div>
      <div class="field">
        Subtotal: <input type="text" id="subtotal" name="subtotal" value="" readonly="readonly" />
      </div>
      <div class="field">

        Tax: <input type="text" id="tax" name="tax" value="" readonly="readonly" />
      </div>
      <div class="field">
        Total: <input type="text" id="total" name="total" value="" readonly="readonly" />
      </div>
      <div class="field">
        <input type="button" value="Place Order" onclick="placeOrder(this.form);" />
      </div>
    </div>
  </div>
</body>
</html>

```

CSS:

```

body {
  font:14px arial;
  text-align:center;
}

#frame {
  margin-top:15px;
  width:440px;
}

#left {
  float:left;
  width:130px;
}

div.heading {
  font:20px arial;
  font-weight:bold;
  margin-bottom:5px;
}

div.subheading {
  font:15px arial;
  font-style:italic;
  margin-bottom:10px;
}

div.field {
  margin-bottom:5px;
  text-align:right;
}

```

Duncan's Just-In-Time Donuts

All donuts 50 cents each, cake or glazed!



Name:

of cake donuts:

of glazed donuts:

Minutes 'til pickup:

Subtotal:



















Tax:

Total:

7. Write the HTML and CSS to make the following table:

CIS 228 Airline Seat Selector

Please click on the seat you would like:

	A	B	C	Aisle	D	E	F
Row 1:							
Row 2:							
Row 3:							

(Hint: the elements of the table are images, called `coach.jpg`. Use a `<div>` to style the “airplane” a different color from the background.)

```
<html>
```

```
<head>
```

```
<style>
```

```
body {
```

```
font-family: sans-serif;
```

```
background-color: #ddddff;
```

```
}
```

```
#airplane {
```

```

background-color: #ffffff;
margin: 10px;
text-align: center;
}
</style>
<script>
    //Not needed for this problem
</script>
</head>

<body onload = "initializeSeats()">
<h1>CIS 228 Airline Seat Selector</h1>

<p>
Please click on the seat you would like:
</p>

<div id="airplane">
<table>
<tr>
<td></td><th>A</th><th>B</th><th>C</th><td>Aisle</td><th>D</th><th>E</th><th>F</th>
</tr>
<tr>
<td>Row 1:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Row 2:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Row 3:</td>
<td></td>
<td></td>
<td></td>

```

```

<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</table>
</div>

</body>
</html>

```

8. Write the style sheet, **starbuzz.css**, that will arrange the following page: fonts should be serif and small; main headings should be 120% font size, while secondary headings should be 110%; the background color of the whole page should be different than the background colors of the `<div>`; the sidebar should be positioned on the right hand side of the page and should not overlap with the main section; the award should be positioned absolutely in the center of the header; and the coupon should be fixed (that is, not move when the window is scrolled) on the left hand side of the page.

(Hint: Do not change any of the HTML code.)

```

<html>
  <head>
    <title>Starbuzz Coffee</title>
    <link rel="stylesheet" type="text/css" href="starbuzz.css" />
  </head>
  <body>
    <div id="header">
      
    </div>
    <div id="award">
      
    </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>
      <p>And, did we mention <em>caffeine</em>? </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. </p>
      <p>In only a few years he's executed that plan and today you can enjoy Starbuzz just about anywhere. </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>
      <p>
        We also offer a variety of coffee beans, whole or ground, for you to take home with you. Order your coffee today using our online
        <a href="form.html" title="form.html">Bean Machine</a>, and take the Starbuzz Coffee experience home.
      </p>
    </div>
    <div id="sidebar">
      <p class="beanheading">
         <br />
        ORDER ONLINE with the
        <a href="form.html">BEAN MACHINE</a><br />
        <span class="slogan">
          FAST <br />
          FRESH <br />
          TO YOUR DOOR <br />
        </span>
      </p>
      <p>
        Why wait? You can order all our fine coffees right from the Internet with our new, automated Bean Machine.
      </p>
    </div>
  </body>
</html>

```

```

    </p>
  </div>
  <div id="footer">
    &copy; 2005, Starbuzz Coffee
    <br />
    All trademarks and registered trademarks appearing on
    this site are the property of their respective owners.
  </div>
  <div id="coupon">
    <a href="freecoffee.html" title="Click here to get your free coffee">
      
    </a>
  </div>
</body>
</html>

```

```

body {
  background-color: #b5a789;
  font-family:      Georgia, "Times New Roman", Times, serif;
  font-size:        small;
  margin:           0px;
}
#header {
  background-color: #675c47;
}
#main {
  background:       #efe5d0 url(images/background.gif) top left;
}
#sidebar {
  background:       #efe5d0 url(images/background.gif) bottom right;
  font-size:        105%;
  position:         absolute;
  top:              128px;
  right:            0px;
  width:            280px;
}
#footer {
  background-color: #675c47;
}
h1 {
  font-size:        120%;
}
h2 {
  font-size: 110%;
}
#award {
  position:         absolute;
  top:              30px;
  left:             365px;
  z-index:          99;
}
#coupon {
  position:         fixed;
  top:              300px;
}

```

```

    left:                -90px;
}

```

9. Create a form for ordering coffee from The Starbuzz Bean Machine Your form should have the following choices (the name used by the web application is included in typewriter font):

- choice of beans (house, Columbia, Kenya, etc.): `beans`,
- type (whole bean or ground): `type`,
- extras (gift wrap, catalog with order): `extras[]`,
- name: `name`,
- street address: `address`,
- state: `state`,
- zip code: `zip`, and
- a text area for comments and special instructions: `comments`

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

The web application for processing the form is located at:

<http://www.starbuzzcoffee.com/processorder.php>

```

<form id="beanform"
      action="http://www.starbuzzcoffee.com/processorder.php"
      method="post">
  <table>
    <tr>
      <th>Choose your beans:</th>
      <td>
        <select name="beans">
          <option value="House Blend">House Blend</option>
          <option value="Bolivia">Shade Grown Bolivia Supremo</option>
          <option value="Guatemala">Organic Guatemala</option>
          <option value="Kenya">Kenya</option>
        </select>
      </td>
    </tr>
    <tr>
      <th>Type:</th>
      <td>
        <input type="radio" name="beantype" value="whole" id="whole" />
        Whole bean
        <br />
        <input type="radio" name="beantype" value="ground" id="ground" checked="" />
        Ground
      </td>
    </tr>
  </table>

```



```

<tr>
  <th>Extras:</th>
  <td>
    <input type="checkbox" name="extras[]" value="giftwrap"
      id="giftwrap" /> Gift wrap <br />
    <input type="checkbox" name="extras[]" value="catalog"
      id="catalog" checked="checked" />Include catalog with order
  </td>
</tr>
<tr>
  <th>Ship to:</th>
  <td>
    <table>
      <tr>
        <td>Name:</td>
        <td>
          <input type="text" name="name" id="name" value="" />
        </td>
      </tr>
      <tr>
        <td>Address:</td>
        <td>
          <input type="text" name="address" id="address" value="" />
        </td>
      </tr>
      <tr>
        <td>City:</td>
        <td><input type="text" name="city" id="city" value="" /></td>
      </tr>
      <tr>
        <td>State:</td>
        <td><input type="text" name="state" id="state" value="" /></td>
      </tr>
      <tr>
        <td>Zip:</td>
        <td><input type="text" name="zip" id="zip" value="" /></td>
      </tr>
    </table>
  </td>
</tr>
<tr>
  <th>Customer Comments:</th>
  <td>
    <textarea name="comments" id="comments" rows="10" cols="48">
    </textarea>
  </td>
</tr>

```

```

        <tr>
            <th></th>
            <td><input type="submit" value="Order Now" /> </td>
        </tr>
    </table>
</form>

```

10. Write a **complete** HTML file with JavaScript that does the following:

- The webpage displays an image of your favorite pet.
- When the page is loaded, greet the user: "Hello, I'm your pet."
- When the image of your pet is clicked, thank the user for the attention. If they have not clicked on the image before, ask them for their name, store their name in a variable, `userName`, and tell them.
(Hint: You do not need to use cookies, variables are fine.)

```

<html>
<head>
    <title>iRock - The Virtual Pet Rock</title>

    <script type="text/javascript">
        var userName;

        function greetUser() {
            alert('Hello, I am your pet rock.');
```