Final Examination
CIS 228: The Internet
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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 exams until instructed to do so.

| Question 1 |   |
| Question 2 |   |
| Question 3 |   |
| Question 4 |   |
| Question 5 |   |
| Question 6 |   |
| Question 7 |   |
| Question 8 |   |
| Question 9 |   |
| Question 10 |   |
| TOTAL |   |
1. True or False:

(a) ___ In HTML, every element has an opening and closing tag.
(b) ___ You can only use words, not images, as the label for a link.
(c) ___ “http://google.com” is an example of a relative path.
(d) ___ Attributes describe properties of an element.
(e) ___ In HTML, you can only use JPEG and GIF as image file formats.
(f) ___ Strict HTML requires the use of <br /> instead of <br >
(g) ___ In HTML, you can have tables nested inside tables.
(h) ___ In JavaScript, loops can be nested inside loops.
(i) ___ The regular expression /\d(5)/ matches the form of US phone numbers.
(j) ___ JavaScript functions cannot call other functions.

2. Answer in two sentences or less the following:

(a) What is an event in JavaScript? Give an example.

(b) What triggers events (i.e. where do events come from)?

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>11</td>
<td>#11</td>
</tr>
<tr>
<td>33</td>
<td>#4a</td>
</tr>
<tr>
<td></td>
<td>#ff</td>
</tr>
</tbody>
</table>
4. (a) 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 lehman, citi, goldman, jp=100;

lehman = jp-jp;
goldman = 2*jp;
citi = goldman/jp;
goldman--;
```

<table>
<thead>
<tr>
<th>lehman</th>
<th>citi</th>
<th>goldman</th>
<th>jp</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>100</td>
</tr>
</tbody>
</table>

(b) What does the following JavaScript code do?

```javascript
var count;

for (count = 5; count > 0; count--)
{
    alert(count);
}
alert("Blast off!");
```
5. Fill in the following Javascript functions that will do the following:

(a) Displays the message to the user:

   ```javascript
   function displayMessage(message)
   {
   }
   ```

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

   ```javascript
   function test(digit)
   {
   }
   ```

(c) Takes as input a number, count, and displays "bye" that many times:

   ```javascript
   function sayBye(count)
   {
   }
   ```
6. Be the browser with the following HTML files (note that the CSS is in-line). On the following page of the exam, draw the page and indicate any style (color, borders, etc) on your page:

```html
<html>
<head>
<style>
  body {
    font-family: sans-serif;
    background-color: #ddddff;
  }
  #airplane {
    background-color: #ffffff;
    margin: 10px;
    text-align: center;
  }
</style>
<script>
var seats = new Array;
function initializeSeats() {
  var max = 18, i;
  for (i = 1; i <= max; i++) {
    seats[i] = "empty";
    document.getElementById("seat"+i).src = "coach.jpg";
    document.getElementById("seat"+i).alt = "Coach seat";
  }
  function seatSelect(i) {
    if (seats[i] == "empty") {
      document.getElementById("seat"+i).src = "full.jpg";
      document.getElementById("seat"+i).alt = "Seat taken";
      seats[i] = "taken";
    } else {
      alert("That seat is not available.");
    }
  }
</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><img id="seat1" src="" alt="" height="80" onclick="seatSelect(1)"></td>
      <td><img id="seat2" src="" alt="" height="80" onclick="seatSelect(2)"></td>
      <td><img id="seat3" src="" alt="" height="80" onclick="seatSelect(3)"></td>
      <td></td>
      <td><img id="seat4" src="" alt="" height="80" onclick="seatSelect(4)"></td>
      <td><img id="seat5" src="" alt="" height="80" onclick="seatSelect(5)"></td>
      <td><img id="seat6" src="" alt="" height="80" onclick="seatSelect(6)"></td>
    </tr>
    <tr>
      <td>Row 2: </td>
      <td><img id="seat7" src="" alt="" height="80" onclick="seatSelect(7)"></td>
      <td><img id="seat8" src="" alt="" height="80" onclick="seatSelect(8)"></td>
      <td><img id="seat9" src="" alt="" height="80" onclick="seatSelect(9)"></td>
      <td></td>
      <td><img id="seat10" src="" alt="" height="80" onclick="seatSelect(10)"></td>
      <td><img id="seat11" src="" alt="" height="80" onclick="seatSelect(11)"></td>
      <td><img id="seat12" src="" alt="" height="80" onclick="seatSelect(12)"></td>
    </tr>
    <tr>
      <td>Row 3: </td>
      <td><img id="seat13" src="" alt="" height="80" onclick="seatSelect(13)"></td>
      <td><img id="seat14" src="" alt="" height="80" onclick="seatSelect(14)"></td>
      <td><img id="seat15" src="" alt="" height="80" onclick="seatSelect(15)"></td>
      <td></td>
      <td><img id="seat16" src="" alt="" height="80" onclick="seatSelect(16)"></td>
      <td><img id="seat17" src="" alt="" height="80" onclick="seatSelect(17)"></td>
      <td><img id="seat18" src="" alt="" height="80" onclick="seatSelect(18)"></td>
    </tr>
  </table>
</div>
</body>
</html>
```
(Space for Answer to #6:)
7. Write the HTML and CSS to make the following table:

(Hint: the elements of the table are images, called `empty.jpg`. Use a `<div>` to style the “tic-tac-toe board” a different color from the background.)
8. Write the style sheet, lounge.css, that will arrange the following page:
the fonts should be small and sans serif, the headings should be aqua blue with the
h1 at 150% and h2 at 130%, and the paragraph guarantee should have serif fonts,
a white dashed border, background color aqua-blue, and a background image in the
upper left corner (path for the image is “images/background.gif”). Further, the
elixir menu (contained in a div) should be displayed as a sidebar menu on the upper
right hand side of the page.

(Hint: Do not change any of the HTML code.)
9. Create a form for ordering ice cream from 228 Ice Cream Shop. Your form should have the following choices (the name used by the web application is included in typewriter font):

- choice of cone (plain, sugar, chocolate): `cone`,
- ice cream (chocolate, vanilla, coffee, cookie dough): `iceCream`,
- extras (sprinkles, chocolate sauce, caramel sauce): `extras[]`,
- name: `name`,
- a text area for comments and special instructions: `comments`

For the first two, you should allow only one answer (i.e. 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://comet.lehman.cuny.edu/stjohn/icecream.php
```
10. Write a complete HTML file with JavaScript that squares a number:

- The webpage displays an image of your favorite pet or destination.
- When the page is loaded, greet the user:
  “Welcome! Click on image for squaring:”
- When the image is clicked, ask the user to enter a number and then display the square of the number.