

Final Examination
CIS 228: The Internet
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1. True or False:

- (a) F In HTML, elements displayed by the browser are in the `<head>` section.
- (b) F To use CSS, you must link to an external style sheet.
- (c) F Links cannot be styled.
- (d) F Tags describe properties of an element.
- (e) T In HTML, you can have lists nested inside lists.
- (f) T Strict XHTML requires the use of `
` instead of `
`
- (g) F XHTML is the same as strict HTML 4.01.
- (h) T In JavaScript, loops can be nested inside loops.
- (i) F The regular expression `/\w(10)/` matches the form of US phone numbers.
- (j) F JavaScript functions cannot call other functions.

2. Answer in two sentences or less the following:

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

Functions are reusable pieces of code that perform common tasks.
For example, the function `alert()` pops up a dialog box with a message to the user.

- (b) How do you define a function in JavaScript?

To define a function, you write:

```
function NameOfTheFunction (anyInputs) {  
    stuffToBeDone;  
}
```

where `NameOfTheFunction` is the name you gave your function,
`anyInputs` are the parameters or inputs to the function, and
`stuffToBeDone` is a sequence of commands to be performed.

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

Decimal	Hexcode
12	C
18	#12
160	#a0
164	#a4
254	#fe

$$\#12 = 16 \cdot 1 + 2 = 18$$

160 divided by 16 is 10 remainder 0. 10 in hex is #a

$$\#a4 = 16 \cdot \#a + 4 = 16 \cdot 10 + 4 = 164$$

$$\#fe = 16 \cdot \#f + \#e = 16 \cdot 15 + 14 = 240 + 14 = 254$$

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.)

```
var date, minutes, hours, month= "May";

minutes = 100;
hours = minutes / 60;
minutes = minutes % 60;
date = month + " 21";
minutes--;
hours = hours + 10;
```

date	minutes	hours	month
?	?	?	"May"
"May 21"	100	1	
	40	11	
	39		

- (b) What does the following JavaScript code do?

```
function checkPassword() {
    var password = "hello";
    var input = prompt("Please enter password");
    while (input != password){
        input = prompt("Please enter password");
    }
    alert("Congrats! You guessed the password!");
}
```

Repeatedly asks the user for a password until they enter "hello".

5. Fill in the following Javascript **functions** that will do the following:

- (a) Displays a pop-up window with the message, "Hello":

```
function greetUser()
{

    alert('Hello');

}
```

- (b) Take as input a number, **hour**, and return true if **hour** is less than 11, otherwise return false:

```
function isMorning(hour)
{
    if ( hour < 11)
        return true;
    else
        return false;
}
```

- (c) Takes as input a number, `count`, and displays "Are you sure?" that many times:

```
function checkWithUser(count)
{
    var i;

    for ( i = 0 ; i < count ; i++ ) {
        alert("Are you sure?");
    }
}
```

6. Be the browser with the following HTML files (note that the CSS and JavaScript is in-line).

- (a) Draw what the user will see on the screen when the browser loads. Indicate any style (color, borders, fonts, etc.).

```
<html>
<head>
<style>
body {
    font-family :  Florence, cursive;
}
img {
    padding : 5px;
    margin : 0px 20px;
    border-style : dotted;
}
#emily {
    width = 200px;
    float : left;
}
</style>
<script>
function displayMessage(message) {
    alert(message);
}
function disappear(id) {
    document.getElementById(id).style.display = "none";
}
```

```

</script>
</head>
<body onload="displayMessage('welcome');" onresize="displayMessage('I\'m shrinking');">
<div id="emily">
<img src = "emily.gif" width= "150" onclick="disappear('dickinsonQuote');">
</div>
<blockquote id="dickinsonQuote" onmouseover="displayMessage('Hello!');">
This is my letter to the world,<br>
That never wrote to me,<br>
The simple news that Nature told,<br>
With tender majesty. <br>
<br>--Emily Dickinson
</blockquote>
</body>

```



*This is my letter to the world,
That never wrote to me,
The simple news that Nature told,
With tender majesty.*

-Emily Dickinson

- (b) What happens when the page is resized?
A dialog box pops up with ‘‘I’m shrinking’’.
- (c) What happens when you click on the image?
The quote disappears from the browser window.
7. Write the style sheet, `lounge.css`, that will arrange the following page:
the fonts should be large and cursive, the headings should be orange with the `h1` at 150% and `h2` at 130%, and the paragraph `guarantee` should have serif fonts, a red solid border, background color yellow, and a background image repeated across the upper edge (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 left hand side of the page.
(Hint: Do not change any of the HTML code.)





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>Head First Lounge</title>
    <link type="text/css" rel="stylesheet" href="lounge.css" media="screen" />
  </head>
  <body>
    <p></p>
    <h1>Welcome to the Head First Lounge</h1>
    <div id="elixir">
      <h2>Weekly Elixir Specials</h2>
      <p>
        
      </p>
      <h3>Lemon Breeze</h3>
      <p>
        The ultimate healthy drink, this elixir combines
        herbal botanicals, minerals, and vitamins with
        a twist of lemon into a smooth citrus wonder
        that will keep your immune system going all
        day and all night.
      </p>
      <p>
        
      </p>
      <h3>Chai Chiller</h3>
      <p>
        Not your traditional chai, this elixir mixes mat&acute;
        with chai spices and adds an extra chocolate kick for
        a caffeinated taste sensation on ice.
      </p>
      <p>
        
      </p>
      <h3>Black Brain Brew</h3>
      <p>
        Want to boost your memory? Try our Black Brain Brew
        elixir, made with black oolong tea and just a touch
        of espresso. Your brain will thank you for the boost.
      </p>
    </div>
    <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, filling the lounge and adding an extra dimension
      to your dining experience.
    </p>
    <p id="guarantee">
      Our guarantee: at the lounge, we're committed to providing you,
      our guest, with an exceptional experience every time you visit.
      Whether you're just stopping by to check in on email over an
      elixir, or are here for an out-of-the-ordinary dinner, you'll
      find our knowledgeable service staff pay attention to every detail.
      If you're not fully satisfied, have a Blueberry Bliss Elixir on us.
    </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>
      Now that 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>
      to get you here in record time. No reservations necessary;
      come and join us anytime.
    </p>
    <p>&copy; 2005, Head First Lounge</p>
  </body>
</html>
```

CSS

```
body {
  font : large, cursive;
}
h1, h2 {
  color : orange;
}
h1 {
  font-size : 150%
}
h2 {
  font-size : 120%
}
#elixir {
  width : 200px;
  float : left;
}
#guarantee {
  font : serif;
  border : solid, red;
  background-color : yellow;
  background-image :
    url("images/background.gif");
}
```

8. Consider the following table:

			High / Low (°F)	Precip. %
Tue May 19		Mostly Sunny	70°/54°	0 %
Wed May 20		Mostly Sunny	75°/58°	10 %
Thu May 21		Sunny	77°/59°	0 %
Fri May 22		Partly Cloudy	79°/62°	20 %

Last Updated May 18 11:16 a.m. ET

- (a) Write the HTML for the **first row only** of the table:
(Hint: the table has 5 data cells in each row)

```
<TR class = "colorRow">
  <TD COLSPAN=3></TD>
  <TH>High /<BR> Low (&deg;F)</TH>
  <TH>Precip. %</TH>
</TR>
```

- (b) Write the HTML for the **second row only** of the table:
(Hint: the image is called "mostlySunny.gif")

```
<TR>
  <TD>Tue <BR> May 19</TD>
  <TD><IMG SRC="mostlySunny.gif"></TD>
  <TD>Mostly Sunny</TD>
  <TH>70&deg;/54&deg;</TH>
  <TD>0 %</TD>
</TR>
```

- (c) Write the CSS to style the table:
(Hint: remember to provide background color to the first row only, center align all text, and style the caption)

```
table {
width : 400px;
}
td, th {
text-align: center;
}
.colorRow {
background-color : silver;
}
```

9. Create a form for ordering pizza from 228 Pizza Shop. Your form should have the following choices (the name used by the web application is included in **typewriter font**):

- type of crust (thin, thick): **crust**,

- toppings (extra cheese, pepperoni, mushrooms): `toppings[]`,
- name: `name`,
- a text area for comments and special instructions: `comments`

For the first, 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://comet.lehman.cuny.edu/stjohn/pizza.php>

```
<form action="http://comet.lehman.cuny.edu/stjohn/pizza.php" method="POST">

<p>Crust:
    Wheat:<input type="radio" name="crust" value="Thick" />
    White:<input type="radio" name="crust" value="Thin" />
    Rye:<input type="radio" name="bread" value="Rye" />
</p>

<p>Toppings:
    Extra cheese: <input type="checkbox" name="toppings[]" value="cheese"/>
    Pepperoni: <input type="checkbox" name="toppings[]" value="pepperoni"/>
    Mushrooms: <input type="checkbox" name="toppings[]" value="mushrooms"/>
</p>

<p>Name: <input type="text" name="name" value="" /></p>

<p>Comments:<br />
    <textarea name="comments" rows="3" cols="50">(none)</textarea></p>

<p> <input type="submit" value="Order Now!"/> </p>
</form>
```

10. Write a **complete** HTML file with JavaScript for a guessing game program that asks the user to guess your secret number:

- If they enter a number that's too low, tell them so, and prompt them for another guess.
- Similarly, if they enter a number that's too high, tell them so, and prompt them for another guess.
- When they guess the correct number, congratulate them and end the game.

```
<html>
<head>
    <script>
        function guess() {
            var secret = 4;
            var numGuessed = prompt('Enter a number: ');
```

```
while ( numGuessed != secret ) {  
    if ( numGuessed < secret )  
        numGuessed = prompt('Enter a higher number: ');  
    else  
        numGuessed = prompt('Enter a lower number: ');  
    }  
    alert("Congratulations!");  
}  
</script>  
</head>  
  
<body onload = "guess();">  
</body>  
</html>
```