

On my left is: (NetID)

MY NetID

On my right is: (NetID)

CSc 337 Midterm Examination
October 28, 2013

READ THIS FIRST

Read this page now but do not turn this page until you are told to do so. Go ahead and fill in your NetID in the middle(!) box above. Ask your neighbors on each side to fill in their NetIDs and do the same for them. Use "Aisle" or "Vacant" if that's the case.

This is a 45-minute exam with a total of 100 points of regular questions and an extra credit section.

The last five minutes of the exam is a "seatbelts required" period, to avoid distractions for those who are still working. If you finish before the "seatbelts required" period starts, you may turn in your exam and leave. If not, you must stay quietly seated—no "packing up"—until time is up for all.

You are allowed no reference materials whatsoever.

If you have a question, raise your hand. We will come to you. DO NOT leave your seat.

If you have a question that can be safely resolved with a minor assumption, state the assumption and proceed.

Feel free to use abbreviations.

If you're stuck on a problem, please ask for a hint. Try to avoid leaving a problem completely blank—that's a sure zero.

It is better to put forth a solution that violates stated restrictions than to leave it blank—a solution with violations may still be worth partial credit.

When told to begin, double-check that your name is at the top of this page, and then **put your initials in the lower right hand corner of the top side of each sheet, checking to be sure you have all 4 sheets.**

BE SURE to enter your NetID on the sign-out log when turning in your completed exam.

Problem 1: (10 points) (one point each)

(a) HTML and CSS serve very different purposes. In a word or two, what's the purpose of each?

(b) In Chrome, what is the keystroke sequence that (1) brings up Chrome DevTools on your machine? (2) shows the HTML source for the current page?

(c) In the default stylesheet used by most browsers there's only one property that differs between `div` and `span` elements. What's that property?

(d) What are the names of the five generic font families? (You may abbreviate greatly!)

(e) What is meant by the CSS term "shorthand property"? Show a declaration that uses one.

(f) Write an HTML opening tag that shows an example of "visual markup" and explain what it means.

(g) Label the dimensions in the following CSS code with the side that each dimension specifies:

```
margin: 1px 2px 3px 4px
```

(h) Setting aside history, *whm* thinks it's pretty silly to have `h1`, `h2`, `h3`, ..., `h6` elements. What's an alternative to having six different elements?

(i) In what year did the HTML5 specification become a finalized W3C recommendation? (That is, when was it finally approved?)

(j) Name a person who did something notable related to the development of the Web and briefly describe what that notable thing was.

Problem 2: (6 points)

The following HTML5 document does not validate. What errors does it have?

```
<!doctype html>
<title>x</title>
<p>
Testing <em>this <b>now!</em></b>
  <p>
    Paragraph 2
  </p>
</p>
<ul class=x>
  <ol>three
  <li>one
  <li>two
</ul>
```

Problem 3: (3 points)

In one or two words, what is an image characteristic that would make GIF be the best (or only) choice for the image's format?

Same question, but for PNG.

Same question, but for JPG.

Problem 4: (4 points)

What's meant by the term "content model"? Write a short sentence that is an example of a content model specification.

What's meant by the term "content category"? Write a short sentence that is an example of a content category specification.

Problem 5: (3 points)

Write a CSS rule that makes text in paragraphs be red, then label the parts of the rule. Hint: You should have five labels.

Problem 6: (4 points)

Draw and label the elements of the CSS box model.

Problem 7: (6 points)

Describe in detail the visual effect of each of the following CSS declarations:

```
color: "red"
```

```
font: "sans-serif"
```

```
width: 300
```

Problem 8: (6 points)

Indicate whether each statement is true or false

___ A span can have a background-image.

___ A paragraph can be a child of a div.

___ `position:static` allows an element to be "pinned" to the screen, not moving when the user scrolls the window.

___ There is a good reason to specify `position:relative` but with no accompanying offset properties like `left` or `top`.

___ All HTML elements have the same set of CSS properties.

___ The specificity of `p div a { ... }` is 0,1,1,1.

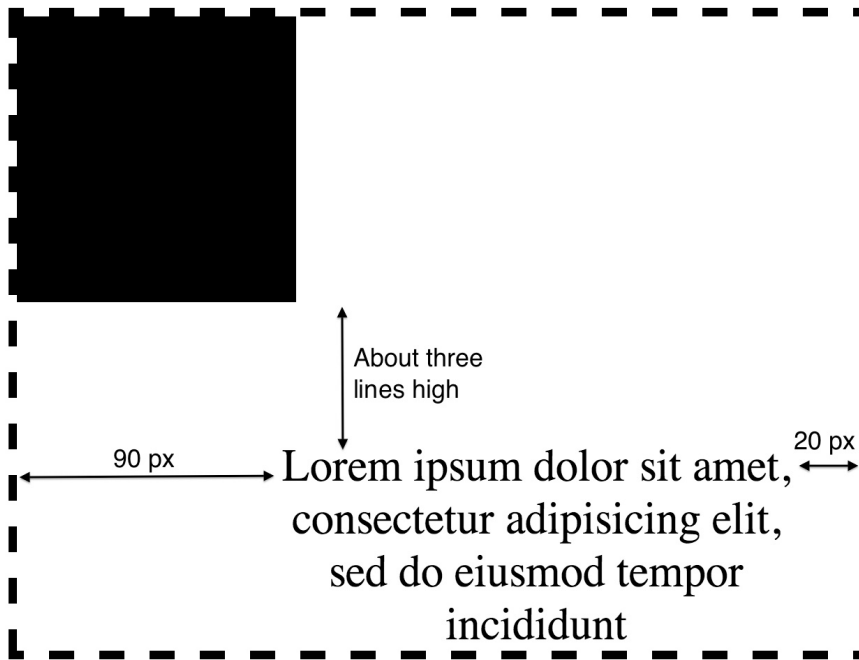
Problem 9: (10 points)

Write HTML and CSS that renders like the following. The lines are one pixel wide. There are two pixels between the inner and outer lines. The boxes should extend to the full width of the browser window. Don't write any of the `<!doctype ...>` etc. boilerplate.



Problem 10: (24 points)

Write HTML and CSS that renders like the following. The dashed line is three pixels wide. The black square is 100x100 pixels. Note the centering of the text. The entire figure should be restricted to the left half of the browser window. **Just write "Lorem..." for the text.** Don't write any of the `<!doctype . . . >` etc. boilerplate. The lines with double-headed arrows are just to show dimensions—do not reproduce them or their associated measurements.



Problem 12: (8 points)

This problem is like `sequence.html` from assignment 2—you are to create a series of a CSS rules such that each rule is applied in turn to the markup below it has the effect, and only the effect, described in each of the steps.

```
<style>
/* Step 1: Turn all text in paragraphs red */

/* Step 2: Make "Second" be green */

/* Step 3: Underline only "test" in "Third test" */

/* Step 4: Make "Fourth" blue but "Third test" still be red */

</style>
<div id=d1>
  First
  <div>Second</div>
  <p id=p1 class=x>
    <span>Third <span class=x>test</span></span>
  </p>
  Fourth
</div>
```

Problem 13: (4 points)

Write an HTML fragment with text that will be turned red by the following rule.

```
p div #x { color: red }
```

Same as previous but for this rule:

```
li > a.ext { color: red }
```

Extra Credit Section (½ point each unless otherwise noted)

- (1) I've made the TAs learn all your names but let's see if you've learned theirs. What are the TA's names and which one has red hair? (one point!)
- (2) Who coined the term "hypertext"?
- (3) What's a glyph?
- (4) What are the names of the HTML elements represented by the `<a>` and `` tags, respectively?
- (5) What's the specificity of an inline style?