

Computer Science 571 2nd Exam
Prof. Horowitz
Tuesday, December 2, 2014, 9:30am – 10:45am

Name:

Student ID Number:

- 1. This is a closed book exam.**
- 2. Please answer all questions on the test**

Section	Student Grade	Max
JAVASCRIPT AND AJAX		/20
JSON		/10
HIGH PERFORMANCE WEBSITES		/20
RESPONSIVE WEB DESIGN		/15
jQUERY		/20
COOKIES AND PRIVACY		/15
		/100

JAVASCRIPT+AJAX [20 pts]

1. [10 pts] Below is a snapshot of a web page that uses Ajax to call a PHP script (q1.php) that prints out the word placed in a text box (shown below) and the remote user's IP address. Some of the code is missing. Fill in the missing code (10 questions, 1 points each):



Figure 1: Initial Form

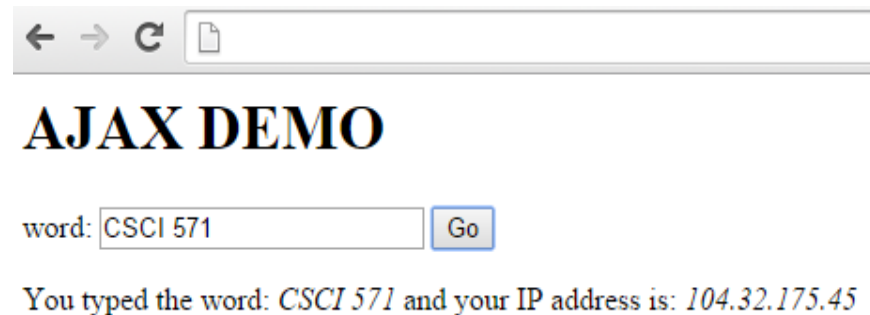


Figure 2: The Form after typing a word and pressing on the GO button

Below is the HTML page with three JavaScript functions that perform the XMLHttpRequest and subsequent update to the HTML page. Some of the code is missing in five places. Provide the missing code.

```
<html><head><title>Example</title>
<script language="Javascript">
function xmlhttpPost(strURL) {
    var xmlhttpReq = false;
    var self = this;
    if (window.XMLHttpRequest) {
        self.xmlhttpReq = new ..... ();
    }
    else if (.....) {
```

```

        self.xmlHttpRequest = new
ActiveXObject("Microsoft.XMLHTTP");
    }
    self.xmlHttpRequest.open(' ..... ',
        ..... , true);
    self.xmlHttpRequest.setRequestHeader('Content-Type',
'application/x-www-form-urlencoded');
    self.xmlHttpRequest.onreadystatechange = function() {
        if (self.xmlHttpRequest.readyState == .....){
            updatepage(.....);
        }
    }
    self.xmlHttpRequest.send(getquerystring());
}
function getquerystring() {
    var form = document.forms['f1'];
    var word = ..... ;
    var qstr = 'w=' + escape(word);
    return qstr;
}
function updatepage(str){
    document.getElementById("result")...... = str;
}
</script></head><body>
<form name="f1">
    <p>word: <input name="word" type="text">
    <input value="Go"
        type="button"
        .....
        ='JavaScript:xmlhttpPost(".....")' /></p>
    <div id="result"></div>
</form></body></html>

```

2. [10 pts] Construct a PHP script that carries out the steps outlined above

```

.....
.....
.....
.....
.....
.....
.....
.....
.....
.....

```

JSON [10 pts]

3. [10 pts] Below is an XML file. Translate it into JSON

```
<!DOCTYPE glossary PUBLIC "-//OASIS//DTD DocBook V3.1//EN">
<glossary><title>example glossary</title>
  <GlossDiv><title>S</title>
    <GlossList>
      <GlossEntry ID="SGML" SortAs="SGML">
        <GlossTerm>Standard Generalized Markup Language</GlossTerm>
        <Acronym>SGML</Acronym>
        <Abbrev>ISO 8879:1986</Abbrev>
        <GlossDef>
          <para>A meta-markup language, languages such as DocBook.</para>
          <GlossSeeAlso OtherTerm="GML">
            <GlossSeeAlso OtherTerm="XML">
              <GlossDef>
                <GlossSee OtherTerm="markup">
              </GlossEntry>
            </GlossList>
          </GlossDiv>
        </glossary>
```

Answer

[illegible]

HIGH PERFORMANCE WEBSITES [20 pts]

4. [5 pts] Among the 14 rules that were given for improving the client-side performance of a web page, one rule suggests placing items at the bottom of the web page. What rule is it?

Answer:

.....

5. [5 pts] Consider the following HTTP response header

```
HTTP/1.1 200 OK
Date: Fri, 30 Oct 2014 13:19:41 GMT
Server: Apache/1.3.3 (Unix)
Cache-Control: max-age=3600, must-revalidate
Expires: Fri, 30 Oct 2014 14:19:41 GMT
Last-Modified: Mon, 29 Jun 2014 02:28:12 GMT
ETag: "3e86-410-3596fbbc"
Content-Length: 1040
Content-Type: text/html
```

Will this page be cached by the browser? If so, for how long?

Answer:

.....

6. [5 pts] What does CDN stand for and how does it improve website performance?

Answer:

.....

7. [5 points] Why is it suggested to minimize re-directs?

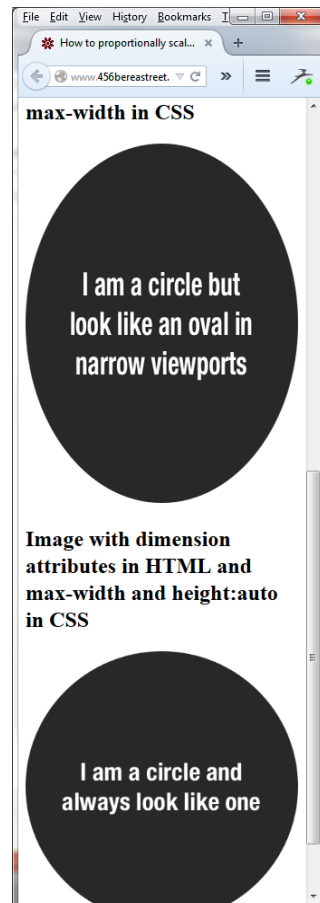
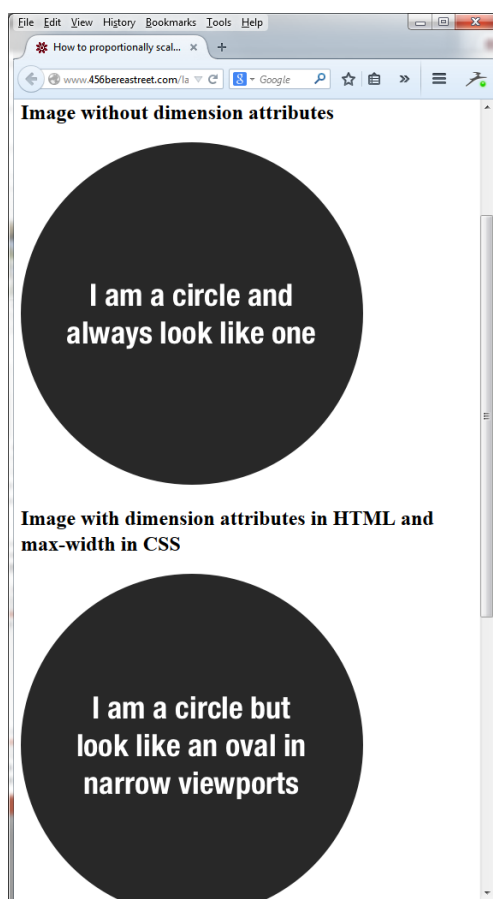
Answer:

.....

8. [5 pts] The lecture on high performance web sites listed 14 ways to improve the download performance of a website. List 5 of the ways that were presented by providing one or two sentences that describe what they are. **PLACE ALL ANSWERS BELOW**

RESPONSIVE WEB DESIGN [15 pts]

Below are two screenshots from a single web page, with the only difference being the re-sizing of the browser. The reason for the page is to show how to proportionally scale images that have dimension attributes.



Below is the source code that produced the two screenshots above. Answer the questions that come after the source code.

```
<!DOCTYPE html><html lang="en">
<head><meta charset="utf-8" />
<title>How to proportionally scale images that have
dimension attributes </title>
<style>
    #body { max-width:600px; margin:0 auto; }
    img { max-width:100%; }
    #image-3 { width:auto; max-width:100%; height:auto; }
</style>
</head>
<body>
<div id="body">
<h1>How to proportionally scale images that have dimension
attributes - demo page</h1>
<p>This is a demo document related to the article
"How to proportionally scale images with dimension
attributes"
<h2>Image without dimension attributes</h2>

<h2>Image with dimension attributes in HTML and max-width
in CSS</h2>

<h2>Image with dimension attributes in HTML and max-width
and height:auto in CSS</h2>

</div></body></html>
```

9. [5 pts] How many circles are displayed in the web page by the source code above?

Answer:

.....

10. [5 pts] How narrow can the width of the browser be made?

Answer:

.....

.....

11. [5 pts] What line or statement in the source code causes the image whose label is “I am a circle but look like an oval in narrow viewports” to actually deform into an oval when the browser width is narrowed?

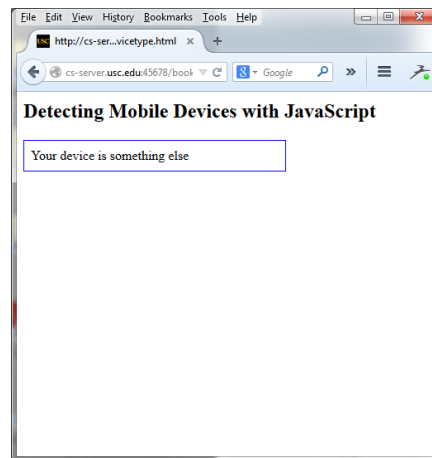
Answer:

.....

.....

jQuery [20 pts]

12. [10 pts] Below is a screenshot of the code that was produced on a desktop computer running FireFox.



Below is the actual source code, with some of the code removed. Please fill in the missing code.

```
<html><head>
    <script type="text/javascript"
        src=".....">
</script></head><body>
<h2>Detecting Mobile Devices with JavaScript</h2>
<div id="browserInfo" style="padding:8px; border:1px solid blue;
width:300px;"></div>
<script type=".....">
    $(document). ..... {
    if (navigator.userAgent.match(/Android/i)) {
        $('.....'). .....
        ("Your device is Android");
    }
}
```

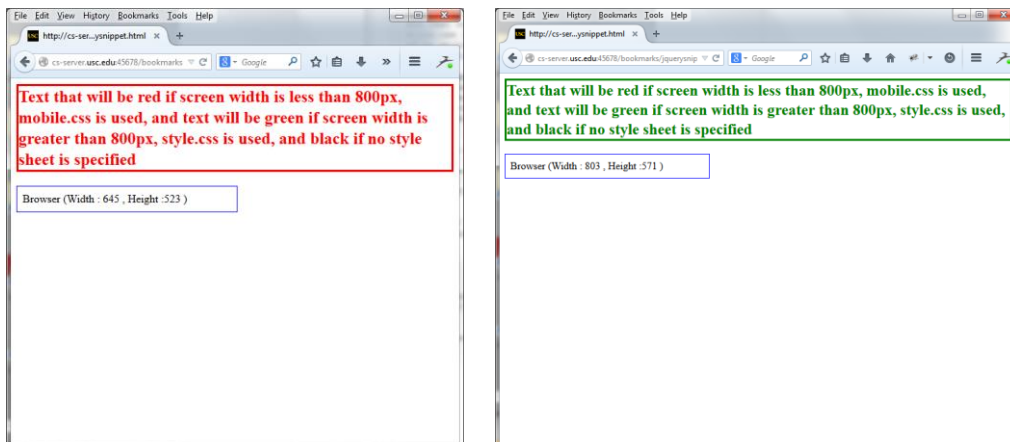


```

else if(navigator.userAgent.match(/iPhone/i)){
    $(' .....'). .....
    ("Your device is iPhone");
}
else if(navigator.userAgent.match(/iPad/i)){
    $(' .....'). .....
    ("Your device is iPad");
}
else{
    $(' .....'). .....
    ("Your device is something else");
}
}
);
</script><noscript></body></html>

```

13. [10 pts] Below are two screenshots that were produced on a desktop computer running FireFox.



Below is the actual source code, with some of the code removed. Please fill in the missing code.

There are two style sheet files (style.css, mobile.css). If the window width is less than 800px, mobile.css is applied. Otherwise, style.css is used.

```

<html><head>
    <link rel="stylesheet" href="style.css" type="text/css" />
    <script type="text/javascript"
        src="" ..... ">
</script></head><body>
<h2>Text that will be red if screen width is less than 800px,
mobile.css is used, and text will be green if screen width is greater
than 800px, style.css is used, and black if no style sheet is
specified</h2>

```

```

<div id="browserInfo" style="padding:8px; border:1px solid blue;
width:300px;"></div>
<script type="text/javascript">
    $(document). =" ..... {
        ..... ();
        $(window).bind(....., .....);
    });
    function resizeWindow(){
        $('#browserInfo'). ..... (
        'Browser (Width : ' + $(window). ..... () +
        ' , Height : ' + $(window). ..... () + ' )');

        var newWindowWidth = .....;

        if(newWindowWidth < 800){
            $("link[rel=stylesheet]"). .....;
        }
        else
        {
            $("link[rel=stylesheet]"). .....;
        }
    }
}
</script><noscript></body></html>

```

COOKIES AND PRIVACY [15 PTS]

14. [2 1/2 pts] The class notes list five ways to Opt Out of cookies. Mention 2 of them

Answer:

- 1.**
- 2.**

15. [2.5 pts] Cookies include a domain, a path, a name/value pair and an expiration date. There are two other fields that may be included in a cookie. What are they and describe them briefly?

Answer:

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16. [2.5 pts] Define: 3rd party cookie

Answer:

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17. [2.5 pts] Define: Cross Site Scripting (XSS)

Answer:

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18. [2.5 pts] Define: Cross Site Request Forgery (CSRF)

Answer:

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19. [2.5 pts] Define: Who is Anonymous

Answer:

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The End
Good Luck