CMPSCI 120
Fall 2017
Midterm Exam #2 Solution Key
Friday, November 9, 2017
Professor William T. Verts

NAME: _____

Question	Points	Score
1	15+5	
2	10	
3	5	
4	5	
5	10	
6	20	
7	5	
8	10	
9	20	
TOTAL	100	

<1>   15 Points – Quick Answers.   Do any 15 for full credit; do more for extra credit. Correct answers will be scored as +1, wrong answers or blank answers as 0. Give ½ for partial credit (missing quotes, semicolons, underscores, asterisks, etc., or minor syntax errors).

CLASS C	What <u>class</u> (classful addressing) is an IP address that starts with **110**?
9	How many bits are reserved for the <u>machine identifier</u> in a **/23** CIDR address? 32 – 23 = 9
.GIF	Which graphics format supports animation as well as transparency?
.BMP	Which graphics format is uncompressed?
.SVG	Which graphics format describes a scene as a list of mathematical objects?
.GIF/.PNG	I have a bitmap image containing fewer than 256 unique colors. Before putting it on the Web, I should convert it to which format(s)? Either is OK.
#FF0	What is the short hex code for **Yellow**?
DarkOrchid	What is the closest named color to **#9930CF**?
© *or* **©**	What is one of two ways to specify the copyright © symbol in HTML?
<INS>…</INS>	What should I use instead of the deprecated **<U>…</U>** tag?
Encryption	What makes modern telnet/ftp programs (PuTTY, WinSCP, Fugu, etc.) qualitatively different from traditional telnet/ftp programs?
YES	Yes or No: Can I log in to my account on **elsrv3** from multiple telnet and/or multiple ftp programs simultaneously?
YES	Yes or No: Could I complete the COMPSCI 120 assignments if I was located in South Dakota?
YES	Yes or No: Could I complete the COMPSCI 120 assignments if the server was located in South Dakota?
cd public_html	After I first log in, what complete UNIX command do I type to open the **public_html** folder?
ugo+r *or* **a+r**	In the command **chmod _____ Frog.gif**, what does in the blank to add read permission to user, group, and others?
rm *.html	What complete UNIX command would I type to <u>delete</u> all **.html** files in the current folder?
TEXT MODE	If I was using ftp to copy an **.html** file from my computer to the server, would I perform the transfer in text mode or in binary mode?
TARGET="_blank"	What do I add to an **<A HREF="…">** tag to get the linked page to appear in a new tab of the browser?
To get to his Web site!	Why did the spider cross the road? Page 354 in the Companion.

<2>   10 Points – **Olive** is defined as **#808000**.

A.   What must I <u>add</u> to the red, green, and blue components of **Olive** to make it **Gray**?

5 Points. "Add 00 to red, 00 to green, 80 to blue" or "Add #000080 to color" or "Add 80 to blue". Accept any of these.

B.   What must I <u>subtract</u> from the red, green, and blue components of **Olive** to make it **Green**?

5 Points. "Subtract 80 from red, 00 from green, 00 from blue" or "Subtract #800000 from color" or "Subtract 80 from red". Accept any of these.

<3>   5 Points – Typeset the following equation in HTML (notice that the *d* and *t* are in italics, and the **a** is bold).

$$d = \tfrac{1}{2}\mathbf{a}t^2$$

`<I>d</I> = ½<B>a</B><I>t</I>²`

`Can use <SUP>1</SUP>⁄<SUB>2</SUB> for ½`
`Can use <SUP>2</SUP> for ²`
1 point each for `<I>d</I>`, `½`, `<B>a</B>`, `<I>t</I>`, and `&SUP2;` or for the equivalent forms. In each case remove ½ point for minor syntax errors.

<4>   5 Points – Short Answer – After several failed log-in attempts, the **elsrv3** server blocks the IP address of the computer from which the attempts are being made. Why? What can the user do if that happens?

2 Points: The server thinks a hacker is trying to break in.

3 Points: The user either has to wait for a couple of days for the server to clear the IP, or has to move their laptop to a different wireless access point (thus giving the laptop a new IP). Accept either explanation here.

<5>   10 Points – For each of the following style tasks, tell me whether the solution is to use the default attributes of a tag, put information in a **.CSS** file, put information in the **STYLE** block, or put information in a **STYLE** attribute. 2 Points each.

A.   Make all **H2** tags green across several Web pages.   **.CSS**

B.   Make all **H1** tags centered in the current document.   **STYLE** block

C.   Make one **H6** tag red, but leave all other **H6** tags alone.   **STYLE** attrib.

D.   Don't change the color of any **H3** tags.   Default

E.   Make the background color of every Web page in the site cyan.   **.CSS**

<6>　20 Points – Consider the following JavaScript fragment, located somewhere between **<BODY>** and **</BODY>**.

```
<SCRIPT TYPE="text/javascript">
    <!--
        document.writeln ("<TABLE BORDER>") ;
        N = 3 ;
        while (N > 0) {
            document.writeln ("<TR><TD>", N, "</TD></TR>") ;
            N = N - 1 ;
        }
        document.writeln ("</TABLE>") ;
    //-->
</SCRIPT>
```

A.　(10 points) What HTML code is <u>written out</u> into the current document when the JavaScript fragment runs? (NOT what appears on screen!)

<p style="color:red; text-align:center">
<TABLE BORDER>
<TR><TD>3</TD></TR>
<TR><TD>2</TD></TR>
<TR><TD>1</TD></TR>
</TABLE>
</p>

Score as 2 points per line: 0 for wrong, 1 for partial, 2 for (nearly) correct

B.　(10 points) What <u>appears on screen</u> when the result of part A is rendered by the browser?

-or-

Give full 10 points if view completely matches code, 5 points for sort of correct, 8 points for mostly correct, 10 points for fully correct.

<7>　5 Points – Short Answer – What is the purpose of the **<NOFRAMES>**...**</NOFRAMES>** tag pair?

To surround HTML code that will run if the browser cannot support frames.

If the browser supports frames the text inside **<NOFRAMES>**...**</NOFRAMES>** will be ignored, but if the browser cannot support frames then the **<FRAMESET>**, **<FRAME>**, **</FRAMESET>**, **<NOFRAMES>**, and **</NOFRAMES>** tags will be unrecognized and ignored, exposing all text inside **<NOFRAMES>**...**</NOFRAMES>** to the browser. Score this as 0 (wrong answer), 3 (got most of it), or 5 (complete answer).

<8>   10 Points – A form called **MyForm** contains an input text box called **MyInput**. Finish the JavaScript function below to extract the string from **MyInput**, convert the string to a number, and then return the square of the number as the result of the function.

```
function GrabItAndSquareIt () {
    S = document.MyForm.MyInput.value ;
    N = parseFloat(S) ;
    return N * N ;
}
```

Also acceptable:

```
function GrabItAndSquareIt () {
    N = parseFloat(document.MyForm.MyInput.value) ;
    return N * N ;
}
```

Score as:

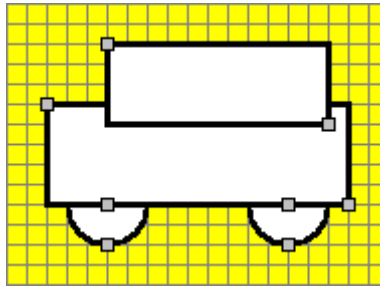3 Points: for **document.MyForm.MyInput.value**

2 Points for **parseFloat(S)**

3 Points for **return N * N**

2 Points for syntax that glues everything together (semicolons, variables, equal signs, etc.)

In each of the four cases, remove partial credit points consistently for errors in capitalization, syntax, variable usage, expressions, etc. Variables can be named anything, as long as they are used correctly throughout.

<9>   20 Points – The following image contains four objects: two circles and two rectangles, in the shape of a simple car. The gray grid (normally not shown) is at a 10-pixel spacing, and all points of interest are shown as small square dots (also normally not shown). All points are on 10-pixel boundaries (i.e., a point might be at <30,20> but not at <32,18>, for example). Complete the HTML code below to turn the image, called **Car.gif**, into a client side image map, where the top rectangle links to **www.windows.com**, the bottom rectangle links to **www.bodies.com**, both circles link to **www.wheels.com**, and the background links to **www.autos.org**.


```
<IMG SRC="Car.gif" USEMAP="#MyMap">

<MAP NAME="MyMap">

        <AREA SHAPE="rect" COORDS="50,20,160,60"
                           HREF="http://www.windows.com/">

        <AREA SHAPE="rect" COORDS="20,50,170,100"
                           HREF="http://www.bodies.com/">

        <AREA SHAPE="circle" COORDS="50,100,20"
                            HREF="http://www.wheels.com/">

        <AREA SHAPE="circle" COORDS="140,100,20"
                            HREF="http://www.wheels.com/">

        <AREA SHAPE="default" HREF="http://www.autos.org/">

</MAP>
```

Scoring:
Assign 4 points each for the two **rect** and the two **circle** shape lines (total of 16 points), 1 point for the file name (**Car.gif**), and 3 points for the **default** shape line. In each case, assign 1 point for correct shape, 1 point for correct coordinates, 1 point for correct URL (trailing slash is optional), and 1 point for overall syntax (quotes, slashes, attribute names, etc.)

Once completely scored, remove 2 points if the order of the shapes is not top rect, bottom rect, wheel, wheel, default (the wheels can be in either order). Do not go below zero.