

INFO/CSE 100
Spring 2006

Bonus Assignment

Name: _____
Student #: _____
Section: _____

1. Most computers operate on numbers that are stored internally as base 2 values, the binary system. We generally represent these numbers using the symbols 0 and 1 with positional notation. What is the largest value that can be stored in a number with four binary digits? Express your answer as a binary number, ie, in base 2 notation. [2 points]

2. Convert the following base 2 binary numbers to base 16 or base 10 as indicated. [4 points]
 - a. 1_2 equals
 - b. 100_2 equals
 - c. 1110_2 equals
 - d. 1010_2 equals

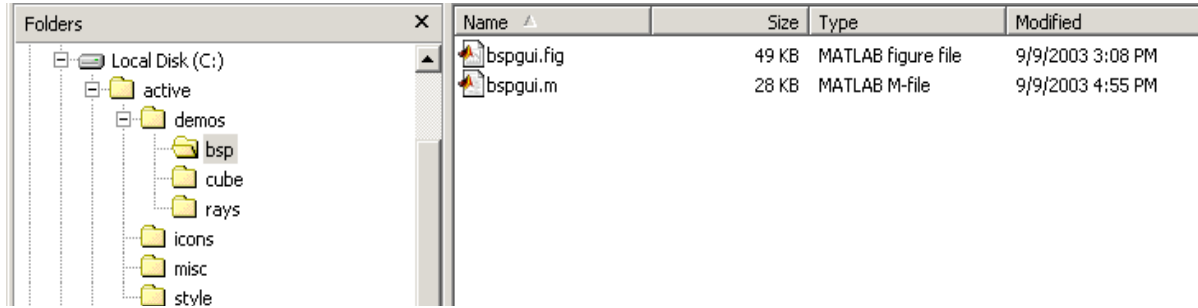
3. One feature that makes computers such powerful tools is that we can use the numbers they store to represent information other than numbers. An early scheme for storing text was the 7-bit ASCII system. In seven bits, we can store 128 different values, the numbers ranging from 0 to 127. A distinct text character (or control code) is assigned to each of these values. In following years, the standard was expanded to use eight bits instead of seven. How many distinct text characters (or control codes) can be represented in the 8-bit ASCII system? [2points]

4. Consider this short JavaScript function.

```
function zip(base, delta, count) {  
  var scratch = base;  
  for (var i=0; i<count; i++) {  
    scratch = scratch + delta;  
  }  
  alert(scratch);  
}
```

Every time this function is called, it causes an alert box to be shown. What is the value shown in the alert box created by the call `zip(10, 3, 2)`? [2points]

Consider the directory structure shown here and then answer the questions that follow.



5. The `cd` command is used in many operating systems (including the Windows system shown here) to change the current working directory. It takes one argument: a relative or absolute pathname to the directory that you would like to set as the new working directory. Assume that the command shell has been started and we have changed the current working directory to **active**, a top level directory on the C drive in this example. The command to do that was:

```
C:\>cd active
```

[6points total]

- a. Write down the absolute pathname for the **active** directory.
- b. Write down a `cd` command that will change the current working directory from **active** to **bsp** with one command.

```
C:\active>
```

- c. Assume that the **bsp** directory is now the current working directory as a result of the command in the previous question. Which of the following commands will change the current working directory to **icons**? Circle the *one* correct answer.

- `cd icons`
- `cd ../../icons`
- `cd C:\active\icons`
- Both a and c
- All of a, b and c

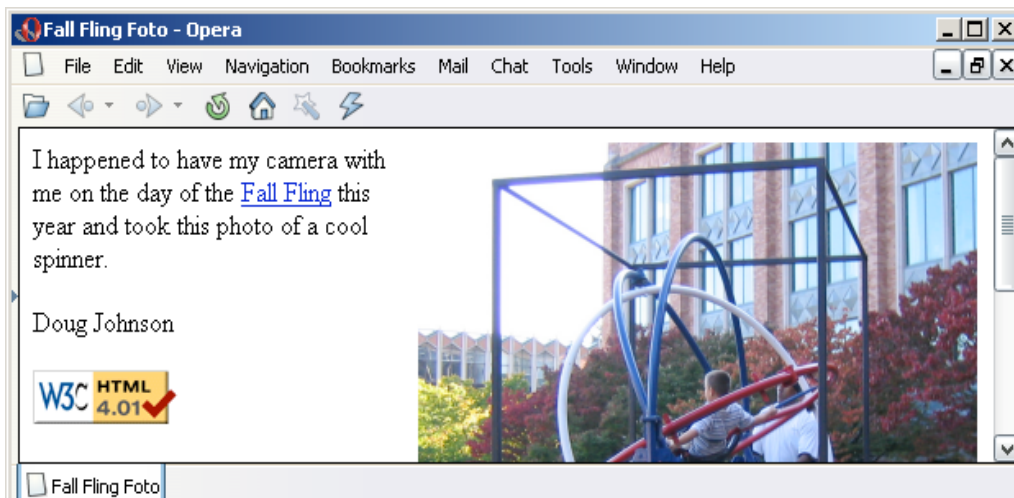
```

<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
  "http://www.w3.org/TR/html4/loose.dtd">

<html>
<head>
<title>Fall Fling Foto</title>
</head>

<body>
<p>
I happened to have my camera with me on the day of the
<a href="http://depts.washington.edu/sao/fallfling.php">Fall Fling</a>
this year and took this photo of a cool spinner.</p>
<p>Doug Johnson</p>
<p><a href="http://validator.w3.org/check?uri=referer"></a></p>
</body>
</html>

```



The HTML shown above is stored in file flingfoto.html and produces the web page in the screen shot.

6. How many attributes are associated with the img tag that displays the photograph of the child playing in the spinner machine? [2points]
7. When this page is displayed, is the image spin.png read from the same server as the HTML web page flingfoto.html? [2points] Yes No
8. What is the complete host name and domain name of the server that is linked to using the words "Fall Fling"? [2points]

9. Label the following parts of the URL [4 points]

<http://www.washington.edu/students/timeschd/SUM2005/info.html>

- A. Top-level domain
- B. Protocol
- C. Directory(ies)
- D. Web page

10. If my first personal computer had 32Mb RAM and my new Apple Powerbook has 1000Mb of RAM, A) What is the percentage of improvement of the memory size? B) What is the factor of improvement? [4 points]

11. What are two problems associated with "flat file" lists or data files? [2points]

12. What was the most difficult thing that you learned in this class? How did you overcome problems that you had while learning it? [2points]