CS 638 Web Programming

Sample Exam

Write your name on the exam. Write something for every question. Students who do not write something for everything lose out over students who write down wild guesses. You will get some points if you attempt a solution but nothing for a blank sheet of paper. Write something down, even wild guesses. Problems take long to read but can be answered concisely.

Problem	Maximum	Score
1	10	
2	10	
3	10	
4	10	
5	10	
Total	50	

Problem 1 – HTML

a) Briefly describe the function of 5 of the following 7 HTML tags: `<h3></h3>`, `<pre></pre>`, `<br />`, `<tt></tt>`, `<ol></ol>`, `<input>`, `<form></form>`

b) Show how HTML tables can be used to achieve the text layout on the right (there is more than one valid solution). Do not worry about the width and height of cells; just give a table that produces this relative alignment of the text in the five cells.

<table>
<tr><td rowspan="3">Text 1</td><td>Text 2</td><td rowspan="2">Text 4</td></tr>
<tr><td>Text 3</td></tr>
<tr><td colspan="2">Text 5</td></tr>
</table>

Problem 2 – C# and database programming

Write a short C# program that does the following:

Using Odbc commands and based upon the schema of the example database gone over in class, write a program that prints a class roster of names and email addresses for people who took CS 302 in Fall of 2005 (this will be a three way join). Error conditions are to be handled with exceptions. It is not necessary to get the schema exactly right (column and table names, for example – we're looking for concepts. You will be using: OdbcConnection, OdbcCommand, OdbcDataReader. Use parameterized queries for catalog number, term, and year.

```
using System;
using System.Collections.Generic;
using System.Text;
using System.Data.Odbc;
using System.Data;

namespace Demo1{
  class Program{
    static string connectionString="don't care about it";

    static void Main(string[] args){

    }
  }
}
```

Problem 2 – HTTP and state (server side programming)

a) Explain briefly what the following sentence means: “HTTP is a stateless protocol.”

b) Give at least two reasons why a server using dynamic pages with server-side programs would want to keep state across HTTP requests.

c) Explain briefly how session state works in ASP.NET .

Problem 4 – JavaScript

a) What does the keyword `this` refer to if used inside the method of an object? What does it refer to if it is used outside an object method?

b) What happens if you assign to an object property that does not exist (the property)? What happens if you read an object property that does not exist?

c) When does the JavaScript code between `<script></script>` tags get executed?

d) Why is it that you shouldn't use `document.write()` inside an event handler?

e) Give the name of a DOM function you can use to find a specific element of an HTML document.

Problem 5 – defining various terms

Explain concisely the difference between the following pairs of terms

a) Explain the difference between “content” and “presentation” and explain why it is important to separate them

b) Lossy compression vs. lossless compression

c) Explain the difference between persistent and temporary state and give at least an example of a situation where both types of state exist.

d) AJAX asynchronous requests vs. ASP.NET postback

e) SOAP vs. REST