Faculty of Information Technology
Computer Science Department

Web Applications and Technologies - COMP334
Midterm Exam

Date: Sunday, 04/05/2014   Time: 80 minutes
Choose Your Instructor: ☐ **Dr.Yousef A Hassouneh**   ☐ **Mr. Ibrahim M Srahin**

Student Number:	**KEY**
Student Name:	**ANSWERS**

Instructions:
- ✓ This is a closed book exam. Answer all of the four questions, no optional questions.
- ✓ Answer the questions clearly in the space provided. Use the back of the pages for your rough work
- ✓ Students' questions are allowed only in the first 10 minutes after distribution the exam papers.
- ✓ Leaving the exam not before half the exam time being passed.

Question #	1	2	3	4	5	**Total of 100**
Grade	**20**	**10**	**20**	**25**	**25**	**100**

Question # 1 (20 points) :

A. Describe the components of a typical three-tier web application.

- – Client tier (browser):
  - • Renders output
  - • Captures user events
  - • Form submission
- – Server tier (e.g. CGI program):
  - • Generates output
  - • Accepts form submission
  - • Implements access to data
  - • Implements application logic
  - • Implements security, performance, transactions, etc.
- – Resource tier (e.g. Oracle RDBMS)
  - • Implements data storage and retrieval

B. Describe what is a cookies mechanism and how it is different from sessions.

Cookies are a mechanism for storing data **on the client computer** by the remote browser.

Because the cookie will be available the next time the web page is visited, cookies can be used to track or identify return users to a web page.

Sessions are similar to cookies in that they serve basically the same purpose; to **preserve some data between pages on a web site.**

However sessions differ from cookie in that they are **stored on the server**.

More secure , Allow variables and their values to be stored for each and every user

C. What is the difference between GET and POST methods.

HTTP GET -- Data in query string sent in packet header

GET Transaction

① The query string is sent to the web server in the application layer header.

② The Web server places the query string in one of its environment variables.

③ The CGI program accesses the environment variables and stores the query string into a variable within the program.

HTTP POST -- Data is part of message payload.

POST Transaction

① The data is included in the bodies of the application layer packets and sent to the Web server.

② The Web server passes the data to the CGI program as the program's standard input stream.

D. Identify and describe the different component parts of the following URL:

http://ritaj.birzeit.edu/genral/news.html

http:

The application layer protocol.

http (hypertext transfer protocol)

ritaj.birzeit.edu:

The named address of the resource -- Translated to IP address for internet travel, then used to locate the virtual space (folder) on the Web server.

genral: **folder path to specific resource.**

news.html: **the requested recourse.**

Question # 2 (10 points) :

Determine whether each of the following statements are TRUE or FALSE:

T/F	Statements
T	1. <h3> font size is larger than <h4>.
F	2. Clients (browsers) Provide HTML pages to the server.
F	3. HTML syntax is much more strict than XHTML, leading to clean and clear documents in a standard form.
F	4. HTML with CSS can be used together to dynamically create pages on a web server.
F	5. The <title> tag should be always included in the beginning of the body section.
F	6. WWW stands for World Web Wide.

A. Write XHTML codes that generate the following part of a webpages :

Palestinian Universities :
1. Birzeit University (www.birzeit.edu).
    - Faculty of IT
        1. CS department
        2. CSE department
    - Faculty of Arts
    - Faculty of Science
        1. Math. Dept.
        2. Physics Dept.
2. AlQuds University
Go to TOP

```
<?xml version = "1.0" encoding = "utf-8" ?>
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN"
   "http://www.w3.org/TR/xhtml11/DTD/xhtml1-strict.dtd">

<!-- Midterm Exam -->
<html xmlns = "http://www.w3.org/1999/xhtml">
 <head> <title> Nested lists </title>
  </head>
  <body>
    <p id = "top"> Palestinain Universities </p>
    <ol>
      <li>Birzeit University (<a href =
"http://www.birzeit.edu">  www.birzeit.edu </a> ).
         <ul>
          <li> Faculty of IT
            <ol>
              <li> CS dept. </li>
              <li> CSE dept. </li>
            </ol> </li>
          <li> Faculty of Arts </li>
          <li> Faculty of Science
            <ol>
              <li> Math dept. </li>
              <li> Physics dept. </li>
            </ol> </li>
         </ul> </li>
         <li>AlQuds University </li>
    </ol>
     <p> <a href = "#top">  Go to TOP </a></p>
  </body>
</html>
```

B. Write XHTML codes that generate the following table:

Then apply the following CSS rules (in the header section of the page) :
- Caption should be centered with Times New Roman font.
- Horizontal table header should be centered, bold and red.
- Vertical table header text color should be yellow with green background.
- Table data cells should be italics and centered.


```
<?xml version = "1.0" encoding = "utf-8" ?>
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN"
  "http://www.w3.org/TR/xhtml11/DTD/xhtml1-strict.dtd">
<!-- Midterm Exam Q3 -->
<html xmlns = "http://www.w3.org/1999/xhtml">
  <head> <title> A simple table </title>

<style type = "text/css">
    caption {text-align: center; font-family: 'Times New
Roman'}
    #h {text-align: center; color: red; font-weight: bold}
    .v{ color: yellow; background-color: green }
    td{text-align: center; font-style:italic}
</style>
  </head>
  <body>
    <table border = "border">
      <caption> Tasks Schedule </caption>
      <tr id="h">
        <th> </th>
        <th> Day1 </th>
        <th> Day2 </th>
        <th> Day3 </th>
          <th> Day4 </th>
      </tr>
       <tr>
        <th class="v"> Task1 </th>
        <td> T11 </td>
        <td colspan = "2"> T12 </td>
        <td rowspan = "3"> Revision </td>
      </tr>
      <tr>
        <th class="v"> Task2 </th>
        <td colspan = "3"> T2 </td>
      </tr>
      <tr>
        <th class="v"> Task3 </th>
        <td> T31 </td>
        <td> T32 </td>
        <td> T33 </td>
      </tr>
      </table>
  </body>
</html>
```

Write a suitable CSS rule for each of the following styles.

A. All Heading at level 2 through 5 should be in center alignment.

```
h2,h3,h4,h5{
            color: blue;
            text-align: center
        }
```

B. Each paragraph should be preceded by a 3 cm indentation and 2 points blue border .

```
p  {
        margin-left: 3cm;
        border-width: 2pt;
        border-color: blue
    }
```

C. Entities in class "first" should have a black color background and a white font.

```
.first  {
            color: white;
            background-color: black
        }
```

D. A hyperlink that is active should appear on orange and larger by 1.5 em.

```
a:active {
            color: orange;
            font-size: 1.5em
         }
```

E. All paragraph that have the "later" class should be hidden.
```
p.later {
            visibility: hidden
         }
```

Assume you have the following table called cars in the database:

CNo	CarModel	RaceYear	Driver	place
11	BMW	2001	Yousef	2
22	Skoda	2001	Ibrahim	1
33	VW	2001	Iyad	3
44	BMW	2002	Mustafa	1
55	VW	2002	Ali	2

Write a PHP scripts that allows the user to select a race year from a Combo Box then after submission the script should display a list of cars that have participated in the selected year.

Notes:
- The list of cars should have (Car Model, Driver and Place) and it should be in ascending order according to the place.
- You have to use session to store the year.
- Assume the database name is race, username: httpd , password: test and server: localhost

```php
<?php
session_start();
?>

<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.1//EN"
        "http://www.w3.org/TR/xhtml11/DTD/xhtml11.dtd">

<html xmlns="http://www.w3.org/1999/xhtml" xml:lang="en">
<head>
<title>PHP Midterm Q5</title>
<meta http-equiv="Content-Type" content="text/html; charset=ISO-8859-1"
/>
</head>
<body>
<?php

$strLocation = "Home";
//$strLocation = "Work";
if ($strLocation == "Home") {
    $dbLocalhost = mysql_connect("localhost", "httpd", "test")
        or die("Could not connect: " . mysql_error());

    mysql_select_db("race", $dbLocalhost)
    or die("Could not find database: " . mysql_error());}

$dbRecords = mysql_query("SELECT DISTINCT RaceYear FROM cars ORDER BY
RaceYear ASC", $dbLocalhost)
    or die("Problem reading table: " . mysql_error());
```

```
echo '<p>Please select a race year: </p>
        <form action='. $_SERVER["PHP_SELF"]. ' method="post">';
echo "<p><select name='year'>";
while ($arrRecords = mysql_fetch_array($dbRecords)) {
    if ($_SESSION['year1'] == $arrRecords["RaceYear"])
        echo "<option selected = selected>" .$arrRecords["RaceYear"] .
"</option>";
    else
        echo "<option>" .$arrRecords["RaceYear"] . "</option>";}

echo "</select></p>
    <p><input type='submit' name='submit'/></p>
    </form>";
if (isset($_POST["submit"])) {
    $strY = $_POST["year"];
    echo "<p>Your have selected $strY year</p>";
    $dbRecords = mysql_query("SELECT * FROM cars WHERE RaceYear =".
$strY . " ORDER BY Place ASC", $dbLocalhost)
    or die("Problem reading table: " . mysql_error());
    $_SESSION['year1'] = $strY;

    echo "<table border=\"border\">
    <tr>
        <th> CarModel </th>
        <th> Driver </th>
        <th> Place </th>
    </tr>";
    while ($arrRecords = mysql_fetch_array($dbRecords)) {
        echo "<tr> <td>" . $arrRecords["CarModel"] ."</td>" ;
        echo "<td>" . $arrRecords["Driver"] . "</td>";
        echo "<td>" .$arrRecords["Place"] . "</td></tr>";
    }
echo "</table> ";
}
?>
</body>
</html>
```