BIRZEIT UNIVERSITY

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.

Question # 3 (20 points)

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

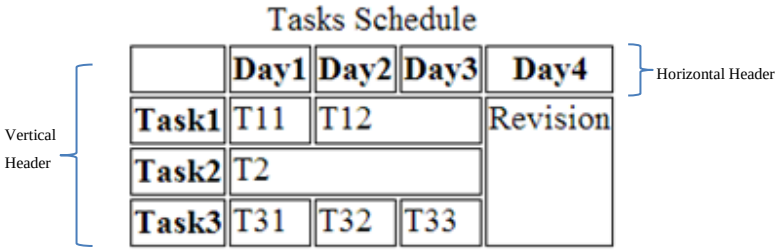

```
<?xml version = "1.0" encoding = "utf-8" ?>
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN"
  "http://www.w3.org/TR/xhtml11/DTD/xhtml1-strict.dtd">

<!-- 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>
```

Question # 4 (25 points) :

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
        }
```

Question # 5 (25 points) :

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
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>
```

End of Exam – Best Wishes