

CONCORDIA UNIVERSITY
Department of Computer Science
SOEN 287/2 Q Web Programming

MIDTERM EXAM: March. 2, 2017 **(ANSWER)**

2:45 -4:00

IDENTIFICATION:

First Name _____ Last Name _____ ID _____

Signature _____

Information:

1. This is a close book exam.
2. Please answer all questions – 100 points as shown.
3. All the code is (or should be) tested under a recent and popular browser, like Chrome, FireFox, IE, etc.
4. Please put your answer to the multiple choice questions in the table below.

Questions		Mark
Section I	Answer	
1		/5
2		/5
3		/5
4		/5
5		/5
6		/5
7		/5
8		/5
9		/5
10		/5
Section II		
1		/10
2		/15
Section III		
1		/10
2		/15
Total		/100

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Section I: Multiple Choices (20 points)

1. Select all the values that are taken as false in Javascript:

- A. 0
- B. ""
- C. undefined
- D. "0.0"
- E. "false"

Answer: A,B,C

2. Write the result of a JavaScript express the the box blow:

```
//below is a JavaScript statement
```

```
'$' + ("5"-"4")
```

- A. \$54
- B. \$1
- C. NaN
- D. undefined
- E. error

Answer: B

3. What is the final value of variable sum after the following JavaScript code is executed?

```

var sum = 0;

function add_t()
{
    var sum = sum + 20;
}

add_t();

sum;

```

- A. 20
 - B. 0
 - C. 1
 - D. 21
 - E. none of the above
- Answer: B

4. Which of the following IP address is possibly valid?

- A. 256.0.2.4
- B. 192.1.2
- C. 10.0.0.1
- D. 134.789.5.6

Answer: C

5. Which methods are defined in HTTP/1.1? [Select all the correct answer]

- A. PUT
- B. GET
- C. UPDATE
- D. HEAD
- E. UPLOAD

Answer: A,B,D

6. Which HTTP Status Code represents "success" status?

- A. 200
- B. 300
- C. 400
- D. 500
- E. 600

Answer: A

7. What is the correct HTML for referring to an external style sheet?

- A. <stylesheet>mystyle.css</stylesheet />
- B. <style src="mystyle.css" />
- C. <link rel="stylesheet" type="text/css" href="mystyle.css"/>
- D. None of the above

Answer: C

8. Which of the following MIME type definitions are possibly correct? [Select ALL the correct answers]

- A. text/plain,
- B. text/gif

- C. image/html,
 - D. text/css
 - E. text/javascript
- Answer: A, D, E

9. Who is the inventor of HTML?

- A. Tim Berners-Lee
- B. Marc Andreessen
- C. Bill Gates
- D. Larry Ellison
- E. Al Gore

Answer: A

10. How do you add a background color for all <h1> elements?

- A. all.h1 {background-color:#FFFFFF}
- B. h1.all {background-color:#FFFFFF}
- C. h1 {background-color:#FFFFFF}
- D. .h1 {background-color:#FFFFFF}

Answer: C

Section II: Short Answer Questions (25 points)

1. Fill the blank lines with the color used to show the strings on a browser. For example, if the line is showed in blue, fill the line with "blue" (10 points).

```

<head>
  <style type="text/css">
    h2.blue {color:blue;}
    h1 em {color:green;}
    .red {color: red;}
    * {color: yellow; font-size: 5mm}
  </style>
</head>
<body>
  <h1 class="blue">Heading 1 <em> This is _____ </em> </h1>
  <h1> this is _____ </h1>
  <h2 > this is _____ </h2>
  <p class="red"> This is _____. <em> This is _____ </em></p>
</body>

```

answer:

```

<head>
  <style type="text/css">
    h2.blue {color:blue;}
    h1 em {color:green;}
    .red {color: red;}
    * {color: yellow; font-size: 5mm}
  </style>
</head>
<body>
  <h1 class="blue">Heading 1 <em> This is green </em> </h1>
  <h1> this is yellow</h1>
  <h2 > this is yellow</h2>
  <p class="red"> This is red. <em> This is yellow</em></p>
</body>

```

2. (15 points) Only JavaScript code is needed in this question. Create a new object type Book. Book has four properties: authors (type: array), title (type: string), publish year (type: string), publisher (type: string). Please 1) give the definition of Book; 2) create a Book object for the following book:

Artificial Intelligence: A Modern Approach, by Stuart Russell and Peter Norvig, published by Prentice Hall, 2009.

3) Add a price property to this object. Assign price to \$127.5. 4) Print all the properties in this object.

Answer:

```

function book(authors, title, publishYear, publisher){
  this.authors = authors;
  this.title = title;
  this.year = publishYear;
  this.publisher = publisher;
}

```

```

aBook = new book(["Stuart Russell", "Peter Norvig"],
  "Artificial Intelligence: A Modern Approach",
  "2009",
  "Prentice Hall");

```

```
for(var name in aBook){  
    document.write(name + ": "+aBook[name] + "<br/>");  
}  
document.write("<br/>");
```

```
aBook.price = 127.5;  
for(var name in aBook){  
    document.write(name + ": "+aBook[name] + "<br/>");  
}  
document.write("<br/>");
```

Section III: Answer the Following Questions with Code (25 points)

The figure at right shows a page to allow a user to create a unique user account. Some information about the user is collected and stored at the server. All the questions in this section are to implement this site.

Question 1 HTML (10 points)

Please finish the HTML document that can display such a page.

```
<?xml version = "1.0" encoding = "utf-8"
?>
<!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">
<head>
<title> Create your user account for our service </title>
<script type = "text/javascript" src = "validator.js" >
</script>
<script type = "text/javascript" src = "Q3.js" >
</script>

</head>
<body>

<form id="regFormBody" name="regFormBody" _____="Q4validate.php"
_____="post">

<h2> Welcome to the Consumer Registration Service </h2>
<h4> Please select your user ID and password </h4>

User ID
<input type="_____" name="id" id="userid" value="" size="32"
maxlength="32" class="" autocomplete="off">
<input type="button" id="yidHelperBtn" value="_____" /><span
id="errMsg">(check if the id exists)</span><br/>
Enter your password <br/>

Password <input type="_____" name="password" id="password" value=""
size="32" maxlength="32"> <br/>
Re-type Password <input type="_____" name="passwordconfirm"
id="passwordconfirm" value="" size="32" maxlength="32" class=""> <br/>
```

```

<p> You must give us a validate email address:
<input type="text" name="email" id="emailaddress" value="" size="32"
maxlength="32" class="" autocomplete="off">
</p>
<p> _____</p>
<input type="radio" name="option1" value="D1"> Daily news<br>
<input type="radio" name="option2" value="D2" checked=""> _____<br>
<input type="radio" name="option3" value="W"> Weekly digest<br>
<p> </p>
<input type="button" name="CreateBtn" id="CreateBtn" value="Create My
Account" title="" border="0">

<script type = "text/javascript" src = "reg_validator.js">
</script>
</form>
</body>
</html>

```

Answer

1 point for each line or pairs (if they are the same, e.g. "check")

```

<?xml version = "1.0" encoding = "utf-8" ?>
<!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">
<head>
<title> Create your user account for our service </title>
<script type = "text/javascript" src = "validator.js" >
</script>
<script type = "text/javascript" src = "Q3.js" >
</script>

</head>
<body>

<form id="regFormBody" name="regFormBody" action="Q4validate.php"
method="post">

<h2> Welcome to the Consumer Registration Service </h2>
<h4> Please select your user ID and password </h4>

User ID
<input type="text" name="id" id="userid" value="" size="32" maxlength="32"
class="" autocomplete="off">
<input type="button" id="yidHelperBtn" value="Check"
onclick="checkExistID()" /><span id="errMsg">(check if the id
exists)</span><br/>
Enter your password <br/>

```

```

Password <input type="password" name="password" id="password" value=""
size="32" maxlength="32"> <br/>
Re-type Password <input type="password" name="passwordconfirm"
id="passwordconfirm" value="" size="32" maxlength="32" class=""> <br/>

<p> You must give us a validate email address:
<input type="text" name="email" id="emailaddress" value="" size="32"
maxlength="32" class="" autocomplete="off">
</p>
<p> Subscribe our services </p>
<input type="checkbox" name="option1" value="D1"> Daily news<br>
<input type="checkbox" name="option2" value="D2" checked> Daily digest<br>
<input type="checkbox" name="option3" value="W"> Weekly digest<br>
<p> </p>
  <input type="submit" name="CreateBtn" id="CreateBtn" value="Create My
Account" title="" border="0">

<script type = "text/javascript"  src = "reg\_validator.js">
</script>
</form>
</body>
</html>

```

Question 2 JavaScript, client side validation, regular expression (15 points)

We use JavaScript to validate the user inputs. Your tasks:

- (a) Please implement a function called **check_pwds(value1, value2)**. This function validates the values of the password and retyped password. Assume value1 and value2 are two strings from the two correspondent text fields. (1) If any of them is empty, popup an alert window "Please enter a password". (2) If the two values are not equal, popup an alert window "Two passwords must be equal". (3) The password must be 6-8 characters long, contain at least 1 number, at least 1 lower case letter, at least 1 upper case letter, and one special characters from the list {\$, ^, &, @, #}. The functions should return true or false. (7points)

```

function check_pwds(value1, value2){
if (value1 == ""||value2 == "") {
  alert("Please enter both passwords.");
  return false;
}
if (value1 != value2) {
  alert("The two passwords must be equal.");
  return false;
}
}

```

```

/*if (!value1 (/^(?=.*{6,8})(?=.*\d)(?=.*[a-z])(?=.*[A-Z])(?=.*[@#$^&]).*$/) {
    alert("The format is not correct");

    return false;
}*/
//OR
if (!(value1.match(/^{6,8}) && value1.match(/.*\d/) && value1.match(/.*[a-z]/) &&
value1.match(/.*[A-Z]/) && value1.match(/.*[@#$^&]/)) {
    alert("The format is not correct");
    return false;
}
return true;
}

```

(b) Please write a JavaScript function **check_Email(email)** to validate the email address. Hints: an email address must contain “@”. Before @ is the account name which contain alpha-numeric characters (both lowercase and uppercase characters are allowed). The account name may have periods (‘.’), underscores (‘_’) and hyphens (‘-’). After @ is the domain name sign which must be some alpha-numeric characters. A domain name can also contain period (‘.’) and hyphens (‘-’). Domain names end with 2, 3 and 4 characters e.g.us, tx, org, com, net, wxyz. **(8points)**

```

function check_Email(email) {
    /*var filter = /^[a-zA-Z0-9_\.\\-]+\@((([a-zA-Z0-9\\-]+\.)+([a-zA-Z0-9]{2,4})+)$/;
    if (!filter.test(email.value)) {
        alert('Please provide a valid email address');
        email.focus;
        return false;
    }*/

    //use multiple patterns
    var at = email.search(/@/);
    var accountName = email.substring(0, at);
    var domainName = email.substring(at+1);
    alert(at+" "+accountName+" "+domainName);
    if (!(accountName.match(/^[a-zA-Z0-9_\.\\-]+$/) && domainName.match(/^[a-zA-Z0-9_\.\\-]+\@((([a-zA-Z0-9\\-]+\.)+([a-zA-Z0-9]{2,4})+)$/))){
        alert('Please provide a valid email address');
        return false;
    }

    return true; }

```