EE-WBC Exam No. 1 (100pts. - 20% of the final grade)

General Remarks
Do not use back side for answers. Back side of this test will not be graded. Attach more pages if necessary. Midterm progress grade will be calculated based on this exam (70%) and homework (30%).

Problem Set 1 – HTML 4.01

Problem 1a (10pts.)
In HTML 4.01: How would you code text that is supposed to appear as shown? Web browser displays:

```
C   =    A   &    B  ;
```

Your code: (do pay attention to spacing between characters)

```
C  =  &nbsp; A  &amp;  B ;
```

<!-- Alternatively use <code>…</code> instead of %nbsp;: & still needs to be “escaped” -->

Problem 1b (10pts.)
In HTML 4.01 Strict what will a Web browser display if it encounters the following code in a body of a Web page. Assume standard typical Web browser style with underlined links. Please pay attention to new lines, capitalization, font size, type, align and underlining. HTML code:

```
<p> ONE </p>
<p> TWO </p>
<p> Three > e </p>
```

Web browser displays:

```
ONE
TWO
e
```

Problem 1c (10pts.)
Please consider the following HTML code fragment inside the body of a Web page. Answer the questions about the formatting mechanism of CSS by indicating the color used by a CSS compatible Web browser to format each paragraph.

```
<style type="text/css">
    p { color: black; }
    b { color: red; }
    i { color: green; }
    b i { color: blue; }
</style>

<p>This paragraph is in _________ color.</p>
<p>This paragraph is in _________ color.</p>
<p>This paragraph is in _________ color.</p>
<p>This paragraph is in _________ color.</p>
```

```
red green blue black
red green blue black
red green blue black
red green blue black
```

Total errors this page: ___
**Problem Set 2 – JavaScript**

**Problem 2a (15pts.)**
Please answer that question by providing very short answers to the following three questions:

Q: How to call a function when someone clicks on an HTML document entity defined by an opening and closing HTML tags? (which is not necessarily an anchor tag!) // for example: <img...> or <p...>...</p>
Answer:

**By defining onClick action handle:** `<p onClick="function();"> ... </p>`

See the dHTML/JavaScript documentation for complete list of tags that support it.

Q: How to “include” a file that contains only JavaScript code into an HTML file?
Answer:

**By including <script type="text/JavaScript" src="js_library_file_url.js"></script> preferably (good practice) in the header portion of the HTML page.**

Q: How to check if your Web page is not inside a frame?
Answer:

**Use one of the following boolean expressions:**

`top.frames.length>0`  or  `window.top.location!=window.location`

However, be prepared to handle a security violation error by performing the test inside try-catch. If an exception is thrown then you are in a frame from a different domain. If not, then use the result of the tested expression.

**Problem 2b (15pts.)**
Please provide the code for a JavaScript function called `ValidateBBB()` that is run when a button is clicked. The function should check if the content of the textfield `bbb` represents a number between 50 and 90. If it does then the textfield background should be set to green. Otherwise, it should be set to red. Hint: This question evaluates if how easily you can look up new things that you never did before in JavaScript reference. Check with the “Webmaster in Nutshell” JavaScript reference regarding how to access relevant style property of the `bbb` object.

```javascript
<form name="aaa">
  <input name="bbb" type="text" value="" onChange="ValidateBBB();" />
</form>
<script type="text/JavaScript">
  // Answer: (write the function code in JavaScript below)
  function ValidateBBB() { // declare correct function 3pts
    if (document.aaa.bbb.value>=50 && document.aaa.bbb.value<=90) // access input value 3pts, do the range check 3pts
      document.aaa.bbb.style.backgroundColor = "green"; // access attribute 3pts, set value more or less correctly 3pts
    else
      document.aaa.bbb.style.backgroundColor = "red"; // note: we can also use background directly and set color & more properties
  }
</script>
```

“Prototype” for the question 3b on the next page:

```java
public static int Integer::parseInt(String s) throws NumberFormatException;
```

Total errors this page: ___
Problem Set 3 – Java

Problem 3a (20pts.)
What numbers are printed to the standard output when this program is run?

class Data {
    int x;
    static int y;
}

public class Test {
    public static void main(String A[]) {
        Data one = new Data(), two = new Data();
        one.x=11; one.y=12; two.x=13; two.y=14;
        System.out.println(" "+one.x+" "+one.y+" "+two.x+" "+two.y);
        two=one;
        one.x=21; one.y=22; two.x=23; two.y=24;
        System.out.println(" "+one.x+" "+one.y+" "+two.x+" "+two.y);
    }
}

1  1   1  4   1  3   1  4
2  3   2  4   2  3   2  4

Problem 3b (20pts.)
Answer the questions regarding exceptions feature and error flow for the following four functions:

static public int FS_A(String s) {
    int var=-1;
    try {
        var=Integer.parseInt(s);
    } catch (Exception e) { }
}

static public int FS_B(String s) throws Exception {
    int var=-1;
    try {
        var=Integer.parseInt(s);
    } catch (Exception e) { }
    return(var);
}

static public int FS_C(String s) throws Exception {
    int var=Integer.parseInt(s);
    return(var);
}

static public int FS_D(String s) {
    int var=Integer.parseInt(s);
    return(var);
}