



University of Maryland College Park

Department of Computer Science

CMSC335 Spring 2022

Exam #1

FIRSTNAME, LASTNAME (PRINT IN UPPERCASE):

STUDENT ID (e.g., 123456789):

Instructions

- This exam is a closed-book, closed-notes exam with a duration of 75 minutes and 200 total points.
- You may lose credit if you do not follow the instructions below.
- **At this point, you must write your name and id at the top of this page and add your directory id (e.g., terps) at the end of odd-numbered pages.**
- Please use a pencil to answer the exam.
- **Do not remove the exam's staple, and do not bend any of the pages, as doing so will interfere with the scanning process.**
- Provide answers in the rectangular areas. If you continue a problem on another page(s), make a note. **For multiple-choice questions, please fill in the bubble (do not circle).**
- **Your code must be efficient and as short as possible.**
- For multiple-choice questions, you can assume only one answer unless stated otherwise.
- You don't need to use meaningful variable names; however, we expect good indentation.
- You must stop writing once the time is up.

Grader Use Only

Problem #1 (Multiple-Choice)	60	
Problem #2 (CSS)	14	
Problem #3 (HTML)	30	
Problem #4 (JS Function)	26	
Problem #5 (Form/JS)	70	
Total	200	

Problem #1 (Miscellaneous)

1. (3 pts) What is the value printed by the following function?

```
function task() {  
    let age;  
  
    document.writeln(age);  
}
```

- ☐ (a) undefined
- ☐ (b) 0
- ☐ (c) Empty string.
- ☐ (d) A trash value (any random value).

2. (3 pts) In a web server, **localhost** corresponds to the IP address:

- ☐ (a) 127.127.127.1
- ☐ (b) 127.0.0.1
- ☐ (c) 0.0.0.127
- ☐ (d) None of the above.

3. (3 pts) In the Apache server provided by XAMPP, documents we want the web server to deliver to requests are in the directory:

- ☐ (a) htdocs
- ☐ (b) localhost
- ☐ (c) index.html
- ☐ (d) None of the above.

4. (3 pts) Server-side includes allow us to:

- ☐ (a) Include the same HTML contents in several files.
- ☐ (b) To combine several web server requests into one.
- ☐ (c) Execute code in the browser.
- ☐ (d) None of the above.

5. (3 pts) From what we discussed in the lecture, if we can see a page when we specify an URL that ends with the name of a directory (e.g., <https://www.cs.umd.edu/class/spring2022/cmsc335> where cmsc335 is a directory), then:

- ☐ (a) The directory has a text file called README.txt.
- ☐ (b) The directory has a file called htdocs.
- ☐ (c) The directory has a file called index.html or index.shtml.
- ☐ (d) None of the above.

6. (3 pts) An HTTP post request:

- ☐ (a) Can be bookmarked in the browser.
- ☐ (b) Does not include parameters in the URL.
- ☐ (c) Usually does not modify the state of the server.
- ☐ (d) None of the above.

7. (3 pts) Once the DOM has been created, it cannot be modified.

- ☐ (a) True
- ☐ (b) False

8. (3 pts) In a JavaScript program, we always need to define a function called main().

- ☐ (a) True
- ☐ (b) False

9. (3 pts) The action attribute of the <form> tag is used to specify:
- ☐ (a) The destination (e.g., a script) that will process the data.
 - ☐ (b) Whether HTTP get or HTTP post will be used.
 - ☐ (c) Whether encryption will be used.
 - ☐ (d) None of the above.
10. (3 pts) The DOM (Document Object Model) represents:
- ☐ (a) An HTML document.
 - ☐ (b) The result of processing a CSS file.
 - ☐ (c) The first created object when we execute prompt().
 - ☐ (d) None of the above.
11. (3 pts) When the browser sees JavaScript on a page, the DOM construction is:
- ☐ (a) Continued (nothing can stop the DOM construction once it has started).
 - ☐ (b) Halted.
 - ☐ (c) Slowed down, but not halted.
 - ☐ (d) None of the above.
12. (3 pts) Which of the following represents the DOM in JavaScript?
- ☐ (a) window
 - ☐ (b) document
 - ☐ (c) document.writeln
 - ☐ (d) None of the above.
13. (3 pts) In JavaScript, the global execution context is:
- ☐ (a) A global variable.
 - ☐ (b) A frame in the stack.
 - ☐ (c) A tree.
 - ☐ (d) None of the above.
14. (3 pts) The output of the following code fragment is:
- ```
let answer = ("10" == 10);
document.writeln(answer);
```
- ☐ (a) true
  - ☐ (b) false
  - ☐ (c) undefined
  - ☐ (d) null
15. (3 pts) The **prompt()** function returns:
- ☐ (a) A number if one was entered by the user and a string otherwise.
  - ☐ (b) A string no matter what the user entered.
  - ☐ (c) null if the user enters a floating-point number.
  - ☐ (d) undefined if the user enters a floating-point number.
16. (3 pts) JavaScript uses garbage collection.
- ☐ (a) True
  - ☐ (b) False

**DirectoryId (e.g., terps):**

17. (3 pts) The output of the following code fragment is:

```
let a = [10, 20];
a.length = 4;
document.writeln(a[2]);
```

- ☐ (a) true
- ☐ (b) false
- ☐ (c) undefined
- ☐ (d) null

18. (3 pts) The output of the following code fragment is:

```
document.writeln(Number("14.5in"));
```

- ☐ (a) 14
- ☐ (b) 14.5
- ☐ (c) NaN
- ☐ (d) null

19. (3 pts) Which of the following allow us to retrieve the character associated with an index position in a string? **Choose all that apply.**

- ☐ (a) [ ]
- ☐ (b) charAt()
- ☐ (c) { }
- ☐ (d) None of the above.

20. (3 pts) In JavaScript, functions can be passed and returned from other functions.

- ☐ (a) True
- ☐ (b) False

## **Problem #2 (CSS)**

1. (6 pts) Define a CSS rule that makes the text of paragraphs have a size of **2 em** and **red** color.

2. (4 pts) Define a CSS rule for the following HTML based on an **id selector** that makes the background color of the div element yellow.

```
<div id="sign">
 Restaurant
</div>
```

3. (4 pts) Define a CSS rule for the following HTML based on a **class selector** that makes the font-size **4 em**.

```
<pre class="sty">
 Entrance
</pre>
```

### Problem #3 (HTML)

1. (5 pts) Using the `<img>` tag, define an image entry where the image name is **paris.jpg**, and the message “city” will appear when the image cannot be displayed.

2. (15 pts) In the rectangular area below, write the HTML that goes inside of the `<body></body>` tags that will generate the following list. Notice that the second entry of the main list has a list. You may not type any numbers as part of your HTML.

- 1. Exam1
- 2. Quizzes
  - Quiz1
  - MemMap
- 3. Projs

3. (10 pts) In the rectangular area below, write the HTML that goes inside of the `<body></body>` tags that will generate the following table. Do not use CSS. To create the border, use the table **border** attribute with a value of one. Do not use the `<strong>` tag to bold the header.

Name
Peter

DirectoryId (e.g., terps):

#### **Problem #4 (JS Function)**

Define a function called **getList** that takes an array of strings and a boolean as parameters. The function will return HTML for a list where each array entry represents a list item. If the boolean parameter is true, the list will be an ordered list and unordered otherwise. Below we provide an example of calling the function; remember that the function must work for other cases.

##### **Driver**

```
document.writeln(getList(["apple", "banana"], true));
document.writeln("Second");
document.writeln(getList(["apple", "banana"], false));
```

##### **Output**

1. apple
2. banana

Second

- apple
- banana

## Problem #5 (Forms/JS)

Under the comments “You must implement,” provide code that will implement the functionality of a form that computes square roots. The form reads a value using a text field. The function **computeSqrts()** will be called when a button labeled “Print” is clicked on. This function will display inside `<div></div>` square roots from one up to the value provided in the text field. The text field has a default value of three, and a reset button will restore the text field value to three. The text “**Value:**” will precede the text field. The following is an example where the user entered two and clicked on the “Print” button.

Value:

**Answers**  
1  
1.4142135623730951

```
<body>
 <form>
 <!-- You must implement -->

 </form>
 Answers

 <div id="display"></div>
 <script>
 function computeSqrts() {
 /* You must implement */

 }
 </script>
</body>
```

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**LAST PAGE**