

Midterm #2 Review Questions, CMSC198N

These questions will help you prepare for the midterm. Solutions will not be provided, however, you are welcome to discuss your solutions with TAs and your instructor during office hours. **Do not use a computer when writing JavaScript programs; write your solution on paper then verify your solutions with the computer.** That is the best way for you to prepare for the exam.

Problem 1

- It is good programming practice to use a lot of global variables.
a) true b) false
- Which of the following allow us to execute code when a page is loaded?
a) if b) NaN
c) while d) onload
- We can modify the size of an array by updating the length value (property) associated with the array.
a) true b) false
- In JavaScript **typeof** returns a string indicating the type of the operand.
a) true b) false
- Using the DOM you could add or remove elements from an html list.
a) true b) false
- An event is a notification that something has occurred.
a) true b) false
- The DOM represents elements of a web page as a tree structure consisting of nodes.
a) true b) false
- What DOM stands for?
- What is DHTML (Dynamic HTML)?
- Write JavaScript that generates an integer random number between 11 and 50.

Problem 2

Draw a memory map for the following JavaScript program.

```
<script type="text/javascript">
  function test1(m, data) {
    m = m + 1;
    var c = data;
    c[2] = "Gone";

    /* Up To This Point */
  }

  function mainFunction() {
    var y = 20;
    var ar = new Array(3);
    ar[0] = "System";
    ar[1] = "Song";
    test1(y, ar);
    alert(ar[2]);
    alert(y);
  }

  mainFunction();
</script>
```

Problem 3

Write a program for a dollar store that allows cashiers to compute a customer's bill. The program will read the names of items and will output the total bill once all the items have been processed. The specifications for the program you are expected to write are:

1. Every item in the store is \$1.00 except the following items: towel → \$3.00, mirror → \$1.50, and lamp → \$2.00.
2. Your program will stop reading items once the user enters the word "quit" (you can assume no item has this name in the store).
3. The program will use the message "Enter item's name" to read the name of an item.
4. The program will use the message "Your total bill is" followed by the bill amount, in order to display the customer's bill.
5. Use **prompt** for input and **alert** for output.

Problem 4

Write a function named "find" that has the following prototype:

```
function find(data, target);
```

The function will return true if target is one of the values in the array and false otherwise.

Problem 5

Write a function named “doubleValues” that has as parameter an array of integer values and that updates each array entry with twice the original value.

Problem 6

Write a function named “equals” that has the following prototype:

```
function equals(first, second);
```

The function has two integer arrays as parameters and it returns true if the arrays have the same values. For example, for:

first → 10, 3, 7 and second → 10, 3, 7 equals will return true

first → 10, 7, 3 and second → 10, 3, 7 equals will return false

first → 10, 3, 7 and second → 10, 3, 7, 8 equals will return false

Problem 7

Write a function named “filter” that has the following prototype:

```
function filter(data, cutoff);
```

The function will create and return a new array with entries from the data integer array with a value less than or equal to cutoff. The function will return **null** if there are no entries that satisfy the specified criteria.

Problem 8

The function **findNegatives** has the following prototype: ***function findNegatives(data, appendTo);***
The parameters **data** and **appendTo** are array of integer values. The function will **APPEND** to the **appendTo** array, negative values present in the **data** array. In addition, the function will return the number of negative values found in **data**. The following code example illustrates the functionality associated with the function:

```
var values=[7,8,-1, 0, -3];  
var addTo=[-10,-12,-9];  
var found = findNegatives(values, addTo);  
alert(found); // will display 2  
alert(addTo); // will display -10, -12, -9, -1, -3
```

Problem 9

Quiz worksheet #3.