Final Exam Practice Questions, CMSC122

These questions will help you prepare for the final exam. 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.

**Miscellaneous**

1. For each of the following problems define the HTML that goes in the `<body></body>` tags.
   a) A table with the prices of articles in a store
   b) A link to the web site: [www.news.noreal.com](http://www.news.noreal.com)
   c) A numbered list with places you want to visit
   d) A bullet list with activities you need to complete by the end of the week
   e) An image that when selected takes you to the web site: [www.news.notreal.com](http://www.news.notreal.com)

2. How can you define the title of a web page to be “Summer Program”?

3. What is a reserved word?

4. What is a syntax error?

5. What is a semantic error?

6. What is an infinite loop?

7. What is an event?

8. What is event-driven programming?

9. Why do we want to avoid global variables?

10. What is the convention we want to follow for variable names?

11. What does `document.getElementById` allow us to do?

12. What does `NaN` stands for?

**Forms**

1. Define a text field using the `<input>` tag that allows us to enter the name of a person. The size of the field is 20 characters.

2. What function can you use to retrieve the value associated with an `<input>` element?

3. Define a button using the `<input>` tag that allows us to call a function named “validate()” when the button is clicked on.

4. Define JavaScript code that retrieves the values associated with two text fields that have as ids “personsAddress” and “personsPhone”.

**Programming**

1. Rewrite the following function using a switch statement instead of a cascading if statement.

   ```javascript
   function assignTeacher(age) {
     var teacher;

     if (age == 10)
       teacher = "Mrs. Smith";
     else if (age == 12)
       teacher = "Mr. Peterson";
     else if (age == 9 || age == 8)
       teacher = "Mrs. Sanders";
     else
       teacher = "Mr. Roberts";

     alert("You have been assigned to: " + teacher);
   }
   ```

2. Write a function that reads a number and prints the even numbers between 1 and the value provided.
3. Write a function named `arraysEquals` that has the following specifications:

**Prototype:** function `arraysEquals(first, second)`  
**Parameter:** first and second are one-dimensional arrays of integers  
**Processing:** the function returns true if the two arrays have the same corresponding values. For example:

- `[10, 20, 345]` is equal to `[10, 20, 345]`  
- `[10, 20, 345]` is not equal to `[20, 10, 345]`  
- `[10, 20, 345]` is not equal to `[10, 20]`  
- `[10, 20, 345]` is not equal to `[]`

4. Write a function named `computeLetterGrade` that has the following specifications:

**Prototype:** function `computeLetterGrade(score)`  
**Parameter:** score is a numeric value  
**Processing:** the function will return a string representing a letter grade according to the following cutoffs:

- score is 90 or above \(\rightarrow \) “A”  
- score is less than 90 but higher than or equal to 80 \(\rightarrow \) “B”  
- score is less than 80 but higher than or equal to 70 \(\rightarrow \) “C”  
- other \(\rightarrow \) “O”

5. Write a function named `product` that has the following specifications:

**Prototype:** function `product(data)`  
**Parameter:** data is a one-dimensional array of floating-point values  
**Processing:** the function returns the product of the values in the array