

CMSC 122 Quiz 3 Worksheet

This quiz will be on Wed, April 3rd. The following list provides additional information about the quiz.

- This will be a written quiz (no computer), closed book, closed notes, and answers must be neat and legible.
- Feel free to discuss the worksheet and possible solutions to problems.
- **Some worksheet problems may be harder/easier than quiz problems.**
- We use the Gradescope system to grade your quizzes after they have been scanned. For the system to recognize your work, you **need to print your name (uppercase) and student id**. The following is an example of the information you need to provide on your quiz:

FIRSTNAME, LASTNAME (PRINT IN UPPERCASE):

MARY, SMITH

STUDENT ID (e.g. 123456789):

123456789

The following exercises cover the material to be included in this quiz. Solutions to these exercises will not be provided, but you are welcome to discuss your solutions with the TAs or instructor during office hours. It is recommended that you try these exercises on paper first (without using the computer). You can then type them to check if they work. You should still **use proper indentation** when handwriting code. **You are expected to know the following:**

- Loops: while, do while, and for loops
- Conditionals: if, else, and switch
- Loop control: break and continue
- Scope: local vs global variables, var vs let
- String manipulation: string.charAt(), string.length, Number(), string.toUpperCase()

Exercises

1. Briefly describe what "break" and "continue" do in a loop.
2. If a variable str = "Hello", what letter does str.charAt(1) return to? What value does the property str.length have?
3. What will be printed by the following code snippet? Note which cases have breaks.

```
var x = "5";
switch (x) {
  case 5:
    document.write("First case<br>");
    break;
  case "5":
    document.write("Second case<br>");
  case "3":
    document.write("Third case<br>");
    break;
  default:
    document.write("Default case<br>");
}
```

4. What will be printed by the following code snippet?

```
var i, nums = "";

for (i = 0; i < 5; i++) {
  if (i === 1 || i === 3) {
    continue;
  }

  nums += i;
  document.write(nums + "<br>");
}
```

5. What will be printed by the following code snippet? You may want to write in the margins what each variable is at each step.

```
var x = 1, y = 10, z = 100;

myFunction(y)
document.write((x + y + z) + "<br>");

function myFunction(x) {
    var y = 5;

    document.write((x * y * z) + "<br>");

    x++;
    y--;
    z *= 3;

    document.write((x * y + z) + "<br>");
}
```

6. Define a function called **abbreviate** with a single parameter, **longWord**. It should return a string with the first and last letters of longWord concatenated together. However, if the word has length three or less, it should just return the word itself.

For example, abbreviate("Maryland") should return "Md". But abbreviate("Cat") should return "Cat".

7. Define a function called **getSuffix** with two parameters, **inputWord** and **suffixLength**, in that order. Assume, inputWord will be a string and suffixLength will be a number at most inputWord.length. This function takes the string inputWord and returns its suffix of length suffixLength. Be careful not to be off by one.

For example, if someone calls getSuffix("Hello", 3), it should return the string "llo".

You are required to use a for loop and the charAt() function to loop through inputWord and concatenate each letter of its suffix to an output variable which is returned by the function.

8. Define a function called **listHTML** with three parameters called, **item1**, **item2**, and **item3**. It should return an unordered HTML list.

For example, listHTML("A", "B", "C") should return the string "ABC".

9. Rewrite problem 7 using a while loop instead of a for loop.