

# CS 1100: Exam-2 Study Guide

## Overall tips:

- The exam will be pen and paper, closed book/notes/Internet.
- The exam is designed to test you on your understanding of basic programming concepts and the JavaScript language.
- I may ask you to implement a simple function, write a loop, write a conditional statement, etc.
- I will not ask you to design a solution to a complex problem, or a program that consists of multiple functions.
- I may ask you to explain a concept, but I will not expect precise definitions from the book.
- I will ask you to trace the value of a variable in some code.
- If I ask you to write code, I will provide you with a list of objects, properties and methods you might use.
- Best way to prepare: carefully review each homework and each lab. Review the readings from the textbook and the slides.

## Programming, client-side coding, and JavaScript basic ideas

- What is a program
- Why do we need programming languages to write programs (i.e., precise form and meaning)
- Where is JavaScript usually executed / difference between server-side and client-side programs

## JavaScript basic concepts

- What is a statement
- What are variables and why do we need them
- Be able to distinguish between valid and not valid variable names
- Explain how an assignment statement works
- Distinguish between the equality and assignment operators
- Understand the difference between primitive data types: numbers, booleans and strings
- Basic understanding of an object (an abstraction that may contain properties and methods)
- Basic expressions with numbers (basic arithmetic) and strings (concatenation)

## The DOM

- What is the DOM
- Access HTML elements using `document.querySelector` and `document.querySelectorAll`; understand the difference between these 2 methods
- Access and modify HTML element properties (`innerText`, `innerHTML`) and attributes

## Functions

- What is a function and why do we need functions
- Basic usage (function definition + function call)
- I may ask you to write a simple function that takes arguments and/or returns a value

## Conditional statements (if/else)

- Write a conditional statement: (a) if; (b) if / else; (c) if / else if / else
- Understand comparison and logical operators

## Repetition statements and arrays

- Write a while loop and understand how it works

- Write a for loop and understand how it works
- When do we use while, and when do we use for
- Recognize an infinite loop
- Understand what is an array and be able to access items in an array

## **Events**

- What is an event; give examples
- Understand what are the eventName and eventHandler parameters in the addEventListener method
- Use addEventListener to connect a function to an event triggered by some HTML element