**CS 4500**

**HW2**

HW2 assumes that you have successfully accomplished HW1. Therefore, we assume that you have a program that plays the strange game (red marker searching randomly for a way out).

HW2 requires you to revise and extend your HW1 program. You will use graphics to show the user what is happening as the random walk touches various cells. This must be done using Javascript in a single file.

Your program also must request from the interactive user the number of columns and the number of rows in the grid. These two numbers must be integers, and between 5 and 20 inclusive. Be wise about making sure you get the proper input from the user. The marker will again start in the lower left corner of the rectangular grid of the specified size. Assume the same rules as before on how the game should proceed, and on what data you output at the end. If you forget, look back at the HW1 specification.

You have a great deal of latitude in deciding what graphical representation would be most enlightening to viewers. You will decide how long each step will last, how many pixels and what colors will represent the cells. Also, think creatively about what information you will show to the viewer, and how you will make that information visible. Be careful about screen geography. Part of your grade will be based on whether or not I think your graphics are helpful in understanding what is happening with this random walk simulation. When the simulation has run its course (either stopping at the upper right, or running out of steps), output to the screen the information you collect about the simulation.

This is an individual assignment. However, you will be working with a classmate who will be assigned in class. You can talk about the details of the assignment with your study partner, and no one else. You may NOT share code directly. That is, you should be typing in your own code, NOT cutting and pasting your partner’s code into your source code. You can walk through your code with your study partner, and each should try to learn from the other. If one of you knows graphics better than the other, share that knowledge, but don’t directly share the code, either electronically or on paper. You can show your partner your code on the screen of your computer.

Make sure to include your partner’s name in your code’s comments. You should also tell how your partner helped you with this assignment. Always give credit where credit is due.

Documentation is central. The file you submit should have your name, your partner’s name, the date, and other helpful information as necessary. There should be a beginning comment that gives an overview of the game being simulated, and gives an overview of the program itself. Inside the code, use “paragraphing” comments to break up code. Subprograms (such as functions) should include a comment telling the reader the purpose of the code and any assumptions inherent in the code. Any tricky parts of code should be commented to enhance human readers’ understanding of your intent, and the details of the implementation.

For HW1, you had a choice of either making an executable file, or making a web simulation. This time, HW2, your program MUST be a web-based program using Javascript (and HTML and CSS as needed). Your program has to be in a single, unzipped RTF file. With a web-based program there is no need for downloading files, linking, compiling, or any such complications. You will be submitting an RTF file with your source code, and that’s all.

Be sure to get clarifications from the customer (your instructor…, me…) when necessary.

Keith