**CS150 Introduction to Programming Using C: Project**

For this project, you will be creating a simplified version of a game called Farkle. Don’t worry if you’ve never played it and don’t know the rules. The rules we will be using are listed below. Please keep in mind that the actual game is more complex (and more fun), but they’re being kept simple to make this project manageable.

**Simplified Farkle Rules:**

For our purposes, there will be two players, the user and the computer. The user will roll 6 dice. Those dice will be scored (see Scoring below). Then the computer player will roll 6 dice. Those dice will be scored. This will continue until one of the players reaches 5000 points and wins the game. (If you want more of a challenge and to create a game, that’s more fun, let me know and I’ll give you the full game rules, but you might want to try making the simple version first and then adding the more complex elements in).

SCORING: In Farkle, 1s are worth 100 points, 5s are worth 50 points, and three of a kinds are scored as follows:

Three 2s = 200 points

Three 3s = 300 points

Three 4s = 400 points

Three 5s = 500 points

Three 6s = 600 points

Three 1s = 1000 points (If you have three ones you get the 1000 points, but not the 100 points each, so it would not be 1300 points)

**Program Requirements:**

Your program should have at least four functions. For each roll the user makes, you need to prompt them and ask them if they’d like to roll. You should display the user’s roll, the computer’s roll, how many points each player got in the roll, and a running total of the sum of their points from all rolls up to the point. You should let the user know when someone wins. For this project, there will be two deliverables, your preliminary list of function declaration and your program. Please see below for more information and for due dates.

**Deliverables:**

List of Function Declarations – due Nov. 21 at 11:59 PM EST

C Program – due Dec. 5 at 11:59 PM EST

The list of functions will count as an assignment grade. The program will be the equivalent of two assignment grades (200 points)

**List of Function Declarations:**

For this part of the project, you need to create a preliminary list of your function declarations for the program you will be writing. Make sure to write out the full declaration(prototype) as it would be written in the actual program. Include a comment (using proper C comment syntax) for each function that tells what it will do. You can change these later if you need to once you actually write the program. You should have at least four function declarations. Your functions should be named descriptively based on what they will do.

**Program**:

This will be the completed C program of the simplied Farkle game. You will be graded based on whether the program runs and compiles without errors, whether it does what it should, and whether you followed the guidelines outlined in this document.