University *of* Guam

Computer Science Department

Project 6: Programming using Functions

Part A: Right Triangle Perimeter and Area Program (5 Points)

1. Create a JavaScript program that will prompt for the base and height of a right triangle.
2. Create three functions for your program: PerimeterRtTriangle, AreaRtTriangle, Hypotenuse
3. Calculate and display the area and perimeter of this right triangle.
4. Pass all values to functions using local parameter variables (Do not use global variables).

Part B: Odd Even Program (5 Points)

1. Create a JavaScript program that will repeatedly prompt for an integer and pass each integer to a function called IsOdd.
2. The function IsOdd should use the remainder (modulus) operator to determine if integer is odd and return true or false to the calling program.
3. The main program will display the Entered value and " is odd" or " is even" after each value.
4. Use sentinel controlled looping with a prompt dialog.

Part C: Dice Rolling Program (10 Points)

Objective:

Create a JavaScript program embedded in a strict XHTML document that utilizes selection and repetition control structures, the random number generator library, and at least two user defined functions.

Requirements:

This program will calculate the score and determine the distribution of 20,000 rolls of two dice. The score for two dice is between two and twelve. Display the totals for each of the scores (2 to 12) and a bar graph with each equal sign scaled to represent 100 rolls of that score. You will need to use the random number generator method that is contained in the Math object. You are required to write at least one user defined functions in this program.

Due Date and Grading:

The program is due Wednesday November 24 at the beginning of your scheduled class. Late projects will be reduced 25% of the total point value for each class period late.

Submit; on or before the due date the following for grading: A cover sheet with your name and project name. Program specifications that describe the analysis involved during the problem-solving phase. This must include incremental flow charts or pseudo code developed during the problem solving process and an analysis of expected results. Include source code and a printout of your output in the browser window for two runs of the program. Note as specified on the Syllabus a grade of 80% will be awarded for fulfilling all program specifications in a minimal way. At the end of your report include a conclusion section that describes extra work efforts and items that don't work in your program. I will attempt to find the described errors in the source code and award partial credit.