Program Design Document Spring, 2017

Adam Risher

CS155 – Section 01

Project #5 – Triangles, triangles, triangles

Due: Tuesday, March 14, 2017

**Program Requirements:**

This program will take input from a file and display the area and perimeter of the input

**Program Inputs:**

Three sides of a triangle (double)

**Program Outputs:**

Side One (double), Side Two (double), Side Three (double), Area (double), Perimeter (double), number of triangles(integer)

**Solution Overview:**

The program will begin by reading input from a file consisting of three numbers per line.

Using those three numbers it will then calculate the perimeter of the triangle.

Perimeter = (side one + side two + side three)

Will then calculate the area of the triangle using those three numbers.

First the semipermiter = (side one + side two + side three)/2

And then the area = semiPerimeter\*(semiPerimeter- side One)\*(semiPerimeter- side Two)\*(semiPerimeter- side Three)

Will then output side one, side two, side three, perimeter, and area and a count of total triangles.

**Algorithm Flowchart:**



**Test Plan:**

Three test cases will be run:

1. 23.4 48.2 57.1
2. 4 5 3
3. 158 172 196
4. 14.777 15.219 13.923
5. 5 10 15.1
6. 4 4 4
7. 12.5 55 40.1
8. 1 1 1
9. 512.15 717.17 8.12