# Testing assignment 1

To determine if the values given by my solutions are correct I have a test data set:

testDataTriangles = [[a,b,c] | a <- [0..10], b <- [1..10], c <- [1..10]]

First I produce a list of ‘Shape’s for all the values in the test set. The resulting list is a bit large. It is still difficult to check if the values are correct. If I create a test function that will return all elements for a given Shape, it is easy to test the values.

So:

*testTriangles2 :: Shape -> [[Integer]]*

*testTriangles2 shape = [[a,b,c] | (a:b:c:xs) <- testDataTriangles, shape == triangle a b c]*

This test code will give me a list with all the values from the test data set that are a given Shape.

A few results:

**DK>** testTriangles2 Equilateral

[[1,1,1],[2,2,2],[3,3,3],[4,4,4],[5,5,5],[6,6,6],[7,7,7],[8,8,8],[9,9,9],[10,10,10]]

**DK>** testTriangles2 Rectangular

[[3,4,5],[3,5,4],[4,3,5],[4,5,3],[5,3,4],[5,4,3],[6,8,10],[6,10,8],[8,6,10],[8,10,6],[10,6,8],[10,8,6]]

**DK>** testTriangles2 Isosceles

[[1,2,2],[1,3,3],[1,4,4],[1,5,5],[1,6,6],[1,7,7],[1,8,8],[1,9,9],[1,10,10],[2,1,2],[2,2,1],[2,2,3],[2,3,2],[2,3,3],[2,4,4],[2,5,5],[2,6,6],[2,7,7],[2,8,8],[2,9,9],[2,10,10],[3,1,3],[3,2,2],[3,2,3],[3,3,1],[3,3,2],[3,3,4],[3,3,5],[3,4,3],[3,4,4],[3,5,3],[3,5,5],[3,6,6],[3,7,7],[3,8,8],[3,9,9],[3,10,10],[4,1,4],[4,2,4],[4,3,3],[4,3,4],[4,4,1],[4,4,2],[4,4,3],[4,4,5],[4,4,6],[4,4,7],[4,5,4],[4,5,5],[4,6,4],[4,6,6],[4,7,4],[4,7,7],[4,8,8],[4,9,9],[4,10,10],[5,1,5],[5,2,5],[5,3,3],[5,3,5],[5,4,4],[5,4,5],[5,5,1],[5,5,2],[5,5,3],[5,5,4],[5,5,6],[5,5,7],[5,5,8],[5,5,9],[5,6,5],[5,6,6],[5,7,5],[5,7,7],[5,8,5],[5,8,8],[5,9,5],[5,9,9],[5,10,10],[6,1,6],[6,2,6],[6,3,6],[6,4,4],[6,4,6],[6,5,5],[6,5,6],[6,6,1],[6,6,2],[6,6,3],[6,6,4],[6,6,5],[6,6,7],[6,6,8],[6,6,9],[6,6,10],[6,7,6],[6,7,7],[6,8,6],[6,8,8],[6,9,6],[6,9,9],[6,10,6],[6,10,10],[7,1,7],[7,2,7],[7,3,7],[7,4,4],[7,4,7],[7,5,5],[7,5,7],[7,6,6],[7,6,7],[7,7,1],[7,7,2],[7,7,3],[7,7,4],[7,7,5],[7,7,6],[7,7,8],[7,7,9],[7,7,10],[7,8,7],[7,8,8],[7,9,7],[7,9,9],[7,10,7],[7,10,10],[8,1,8],[8,2,8],[8,3,8],[8,4,8],[8,5,5],[8,5,8],[8,6,6],[8,6,8],[8,7,7],[8,7,8],[8,8,1],[8,8,2],[8,8,3],[8,8,4],[8,8,5],[8,8,6],[8,8,7],[8,8,9],[8,8,10],[8,9,8],[8,9,9],[8,10,8],[8,10,10],[9,1,9],[9,2,9],[9,3,9],[9,4,9],[9,5,5],[9,5,9],[9,6,6],[9,6,9],[9,7,7],[9,7,9],[9,8,8],[9,8,9],[9,9,1],[9,9,2],[9,9,3],[9,9,4],[9,9,5],[9,9,6],[9,9,7],[9,9,8],[9,9,10],[9,10,9],[9,10,10],[10,1,10],[10,2,10],[10,3,10],[10,4,10],[10,5,10],[10,6,6],[10,6,10],[10,7,7],[10,7,10],[10,8,8],[10,8,10],[10,9,9],[10,9,10],[10,10,1],[10,10,2],[10,10,3],[10,10,4],[10,10,5],[10,10,6],[10,10,7],[10,10,8],[10,10,9]]

# Assignment 2

With the test data:

*testData :: [Form]*

*testData = [Equiv (Impl (Cnj [p, q]) r) (Impl p(Impl q r)), Cnj [p, (Neg p)], Dsj [p, (Neg q)], Dsj [p, Neg p]]*

I ran the following tests / results:

**DK>** [tautology x | x <- testData]

[True,False,False,True]

**DK>** [contradiction x | x <- testData]

[False,True,False,False]

**DK>** [satisfiable x | x <- testData]

[True,False,True,True]

**DK>** [equiv x x | x <- testData]

[True,True,True,True]

**DK>** [equiv x (Neg x) | x <- testData]

[False,False,False,False]

All the results were as expected.