Homework 2, CSCE 240, Fall 2017

Objectives

1. To gain expertise in C++ functions.
2. To gain expertise in C++ looping and control structure.
3. To gain expertise in C++ input and output.

Assignment

You are given an input file comprising 20 (HARD-CODED 20) floating point numbers.

You are to read these 20 numbers into a `vector` of `double` values.

The real task is this: If you take three values at a time and compute the distance between the largest and smallest values of the three, what are the minimum and the maximum values you find among all triples in the `vector`?

For example, if you had five values that were

$$3, 1, -10, -7, 2$$

then the maximum distance would be 13 (for the -10 and the 3 and any number in between) and the minimum distance would be 2, for the triple $1, 2, 3$.

You can do this any way you choose. You can use BFI (Brute Force and Ignorance) and run a triple loop. You could sort, in which case the max is the absolute value of the difference between the smallest and the largest. Doesn't matter.

Your program will have a header file `main.h` and a program file `main.cc` and will be compiled with a simple makefile.

You should read from standard input and write to standard output.