CSE2031

Lab 6
FALL 2009

In this lab, you will do one of the problems in the midterm, but expanded a little bit, here is the text of the problem in the midterm.

Write a program that reads an integer n, followed by n integers.

The program finds the difference between each two consecutive numbers. Then the program displays the maximum difference followed by the two numbers that produced it
For example an input of
7
6 8 2 17 6 9 1
the differences are 2 -6 15 -11 3 -8 note that 2 is 8-6, -6 is 2-8, 15 is 17-2 and so on.
Obviously the maximum difference is 15, then display
15:2:17 again use default formatting "%d:%d:%d\n"

Now, there will be some changes.

Specifications

When you read two numbers and calculate the difference

difference = number_(i+1) - number_i

if more one combination produced the same max. difference, say

max_difference = number_(i+1) – number_i = number_(j+1) - number_j

Then you should display

max_difference:number_i:number_(i+1) **iff** number_(i+1) > number_(j+1)
else display
max_difference:number_j:number_(j+1)

for example, consider this sequence
8
1 2 8 5 9 15 4 10
the max is 6 and is produced by (8-2), (15-9) and (10-4) then you should display
6:9:15 since 15 is greater than 8 and 10

One important point

DO NOT USE ARRAYS IN YOUR CODE

Submit

Submit as submit 2031 l6 l6.c