CSCI 152 Programming Fundamentals II Dr. Creider

Spring 2018

Issues with if - else if structure in C++

Want to find the smallest and largest values in an ordered/unordered set of data

Possible initial values for the variables smallest and largest

(1) smallest = 32767; // largest possible value for short data type

largest = -32768; // smallest possible value for short data type

(2) smallest = largest = num; // smallest and largest are assigned the first data value entered

(3) smallest = largest = 0; // not a good choice for all possible data values, positive and negative

Possible if or if / else if statements that could be used to find the correct results

(1) if(num < smallest) (2) if(num > largest) (3) if(num > largest)

smallest = num; largest = num; largest = num;

else if(num > largest) else if(num < smallest) if(num < smallest)

largest = num; smallest = num smallest = num;

Possible sets of data

(1) ascending: 5, 10, 15, 20, 25

(2) descending: 20, 15, 10, 5, 0, -5

(3) random: 0, 15, 5, 20, -5, 10

(4) identical: 99, 99, 99, 99, 99, 99, 99

(5) all negative: -5, -2358, -87, -13, -123

Is a nested if better or more efficient than 2 independent ifs?

Which combination of initialization, if or if / else if statements and data will always produce the correct result?

The requirement actually is that you must get the correct results with all possible orders of the data set!