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CS31

January 13, 2016

Programming Project #1

In the program located in original.cpp, there were ways for a user to input both invalid and valid input that could break the program. For instance, invalid input such as negative numbers (as there cannot be a negative number of days) still were used in the computations of percentages (which often turned up negative as well). Sample input may be -10, 5, and 6 for daysReviewed, daysWithRain, and daysBelow50Degrees, respectively. This would cause the program to output that it rained -50% of the days reviewed and was cold -60% of the days reviewed. Valid input could also break the program. Sample input may again be 10, 5, and 5 for the variables as listed above. In reality, the number of days raining and the number of cold days would be equal. However, the code does not have an if statement accounting for when daysWithRain == daysBelow50Degrees, and will instead output that it was cold more often than it rained.

In logic\_error.cpp, I changed 100.0 in the assignment of double pctRainy to 100. This causes an incorrect value of percentage of days with rain, because the rvalue only has integer values in its calculation, leading to an incorrect integer division (rather than double division). For instance, 5 days of rain in 12 days reviewed would come out as 41% rainy days instead of 41.66%.

In compile\_error.cpp, I took out one / in the very first comment. Now the compiler would read the comments as if it were code, leading to a compiler error message saying “syntax error: ‘/’.” The compiler recognizes that there is a missing / in the comment. I also removed the final curly brace (}) in the main function, resulting in a compiler recognition of this: “the left brace ‘{‘ was unmatched at the end of the file.”