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Project 1 Writeup

In step 5, I inputted negative numbers which lead to negative outputs. This is a nonsensical output, because negative percentages do not make sense in this scenario. There will also be a nonsensical output if the sum of the two latter inputs is greater than the first. This is because there cannot be more people obeying or disobeying the stay-at-home orders than the total number of people that were surveyed. This leads to percentages that are greater than 100%, which does not make sense. Choosing these inputs, however, did not produce any error messages.

To introduce a logic error to logic\_error.cpp, I removed the “100.0” multiplied to “obey / numberSurveyed,” and “disobey / numberSurveyed” when declaring the doubles, “pctObey,” and, “pctDisobey.” Though this change will not result in a compile error, the outputted percentages will be incorrect by a factor of 100. This is a simple logic error that might be made if one forgets that percentages are a ratio with the denominator being 100. Because there were only logic errors in this code, there were no error messages. Additionally, because the maximum number of digits allowed after the decimal point for the output is 1, removing the “100.0” often lead to outputs of 0.0%.

To produce a compile error in compile\_error.cpp, I erased a curly bracket next to “int main(),” and deleted a semicolon next to “int numberSurveyed.” This created error messages such as “Expected ';' after top level declarator”, “Expected unqualified-id”, “Cannot use dot operator on a type”, and “Unknown type name 'cout'”, and did not allow the program to compile or build. These error messages are a direct consequence of the two introduced mistakes, because the syntax of the code no longer made sense.