Programming Assignment 1 Report

**Step 5: original.cpp**

In order to receive nonsensical results, I inputted 50 for the number of students surveyed, 150 for “likeZoom” and 100 for “sickOfZoom.” The results were that 300.0% of students surveyed liked having Zoom classes, and 200% were sick of Zoom. This is nonsensical, as it is impossible to have a proportion greater than 100% in real survey results. This nonsensical output is the result of my input not following the logical standard that the number of students surveyed should be equal to (or less than, in the case of nonresponse) the combined number of survey results.

**Step 6: logic\_error.cpp**

The logical error I introduced into this program is in line 26, which I altered to read

“**double** pctLike = 10.0 \* likeZoom / numberSurveyed;”

instead of

“**double** pctLike = 100.0 \* likeZoom / numberSurveyed;”.

Changing the multiplier from 100.0 to 10.0 caused incorrect results in which the output percentage for the proportion of students who liked zoom was ten times smaller than it should have been. This is nonsensical, as the final percentages of students who like Zoom and are sick of Zoom do not add up to 100%. For example, with 200 students surveyed and 150 who liked Zoom and 50 who were sick of it, the output was that 7.5% of students liked Zoom. The correct answer would have been that 75% of students liked Zoom. This is a logic error, since it produces incorrect results but does not prevent a successful build.

**Step 7: compile\_error.cpp**

The first compilation error I introduced into this program is in line 14, where I deleted a semicolon that allows the compiler to recognize that the command “cout << "How many students were surveyed? " is over. The compiler reported an error that stated “Expected ';' after expression.” Without this semicolon, C++ can’t interpret the run-on sentence that begins with “cin” in line 15. Therefore, the program fails to compile correctly.

The second compilation error I introduced into this program is in line 19, where I misspelled “cin” as “cinn.” Without “cin,” the program can’t take input for the number of students who are sick of Zoom. The compiler reported an error that stated “Use of undeclared identifier 'cinn'; did you mean 'cin'?” This syntax error prevents the program from building.