Joshua Liu

105136031

10/4/18

CS 31

Step 5 original.cpp

The program begins by asking “How many registered voters were surveyed?” I inputted 20. It then asks, “How many of them say they will vote for Newsom?” and I inputted 450. Lastly, it asks, “How many of them say they will vote for Cox?” and I inputted -40, as shown below.

How many registered voters were surveyed? 20

How many of them say they will vote for Newsom? 450

How many of them say they will vote for Cox? -40

The program skips a line and prints:

2250.0% say they will vote for Newsom.

-200.0% say they will vote for Cox.

Newsom is predicted to win the election.

Inputting a larger number of voters for Newsom than the number of registered voters surveyed resulted in a percentage larger than 100%, which is unreasonable for this program. I also inputted a negative number for the number of votes for Cox, resulting in a negative percentage, which is also unusual and nonsensical for this program.

Step 6 logic\_error.cpp

The logic error I introduced to the code was changing the 100.0 to 10.0 in line 20 shown below.

double pctNewsom = 10.0 \* forNewsom / numberSurveyed;

This change causes the program to incorrectly determine the percentage of registered voters who voted for Newsome. The resulting percentage is a tenth of the correct value, far less than it should have printed. The last message in the program will say “Newson is predicted to win the election” when Newson has more votes than Cox, but the percentages will not align with the correct result.

Additionally, I also changed division operator to multiplication in line 21, as shown below.

double pctCox = 100.0 \* forCox \* numberSurveyed;

This logic error causes the percentage of voters who voted for Cox to be 10000 times larger than it is supposed to be, making the program print an unreasonable percentage of voters who voted for Cox.

Step 7 compile\_error.cpp

To create a compile error, I deleted *int* before the variable numberSurveyed in line 9, deleted the semicolon at the end of line 11, and deleted the close bracket at the end of the program, creating a compile error. The compiler reported the following:

1>c:\cs31\project 1\step7\compile\_error.cpp(9): error C2065: 'numberSurveyed': undeclared identifier

1>c:\cs31\project 1\step7\compile\_error.cpp(13): error C2146: syntax error: missing ';' before identifier 'cout'

1>c:\cs31\project 1\step7\compile\_error.cpp(14): error C2065: 'numberSurveyed': undeclared identifier

1>c:\cs31\project 1\step7\compile\_error.cpp(20): error C2065: 'numberSurveyed': undeclared identifier

1>c:\cs31\project 1\step7\compile\_error.cpp(21): error C2065: 'numberSurveyed': undeclared identifier

1>c:\cs31\project 1\step7\compile\_error.cpp(8): fatal error C1075: '{': no matching token found

1>Done building project "step7.vcxproj" -- FAILED.

The first message tells us that the variable type of ‘numberSurveyed’ is not given. Next, a semicolon is missing. Furthermore, wherever the variable ‘numberSurveyed’ is stated in the program is pointed out since its type has not been defined. Lastly, the closing brackets are missing. As a result, the program is unable to run until these errors are addressed.

Running the Programs Using g31

Running the original.ccp and logic\_error.cpp files did not result in any compile errors. However, running the compile\_error.cpp file caused the system to report that there were multiple problems in the function ‘int main()’, which were all the problems I introduced to the code as described in the “Step 7 compile\_error.cpp” section.