Elena Escalas Computer Science 31 Project 1

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Step 5:

This table represents the integers I put into the program in order to get incorrect outputs:

|  |  |  |
| --- | --- | --- |
| numberSurveyed | numKeep | numRefund |
| 250 | 90 | 100 |
| 50 | 75 | 25 |
| 100 | 50 | 50 |

For my first nonsensical output I got:

36% say they will keep their car.

40% say they will demand a refund.

More people will demand a refund than keep their car.

This does not make sense because there are only two possible outcomes of the event: you either refunded the car, or you kept your car, so the percentages of the two should add up to 100%. The numKeep and numRefund values are only logical if they add up to the numberSurveyed. We do not know for sure if “More people will demand a refund than keep their car” because the missing 60 surveys could very well be for keeping their car, making the results the opposite.

For my second nonsensical output I got:

150% say they will keep their car.

50% say they will demand a refund.

More people will keep their car than demand a refund.

This is nonsensical because it is simply not possible for more people to claim they will keep their car than have been surveyed.

For my third, more technically unusual, result I got:

50% say they will keep their car.

50% say they will demand a refund.

More people will demand a refund than keep their car.

It is not true that more people will demand a refund than keep their car, because the same number of people said they would demand a refund as said they would keep their car. The problem with the “if then else” statement in this case is that the “if” statement is not satisfied, but that does not mean that the other condition is in fact satisfied just because the first one is not.

In addition to these errors, I also inputted an extraordinarily large number and the program could not calculate the values due to an overflow error.

Logic Error:

For my logic error I simply multiplied the numRefund / numSurveyed by 1000 instead of 100. This slight typo could produce some abnormally large percentages for the percentage of people who demand a refund, and in turn the final result would pretty much always indicate that more people will demand a refund than keep their car. If you didn’t pay attention to the percentages, this could become a problem when using the program solely to see whether or not more people will demand a refund.

Compile Errors:

For my compile errors, I tried to emulate things I would often forget, like the final semicolon, or whether to use a less than or greater than sign for outputs vs. inputs. I just had an endl without a semicolon at the end, and:

cout >> “How many of them say they will take a payment and keep their car?”;