Lab 02 A Mess of Momentum

Bradley Grose

# Problem

This program needs to calculate the momentum and kinetic energy using a user input in imperial units. The code must convert both numbers to metric that the user inputs and then solve using p=mv and KE=p2/2m. Then the code must display the result to the user

# Solution

My code first prompted the user with the questions to collect the mass in LBS and the velocity in MPH. Then, storing those values, the code converted the numbers to KG and M/S using stored constants. Then, using the two equations, I used the variables to calculate out momentum and then to calculate out kinetic energy. Finally, the code has the answer write out in a sentence to the user.

# Implementation Problems Encountered

The implementations I encountered was a warning that the scanner keyboard was never closed. This did not affect how my code ran. Also, I used the constants of division to convert the values, which resulted in very minor differences In the answer, nothing too significant in differences.

# Lab Report Questions

1. The unit conversions should be stored as constants as they do not change
2. A double has 8 bytes, or on bit
3. A type int is a whole integer value. A type double is a decimal inclusive value. For example, 5.2 could not be an integer as it has a decimal, but it could be a double value as it has the room to store the value. However, 5 is an integer and can be stores as an int, however, it can also be stored as a double value as I did in my code. However, a double requires more bytes to store a value compared to an int. a double requires 8 bytes while an int requires 4 bytes.