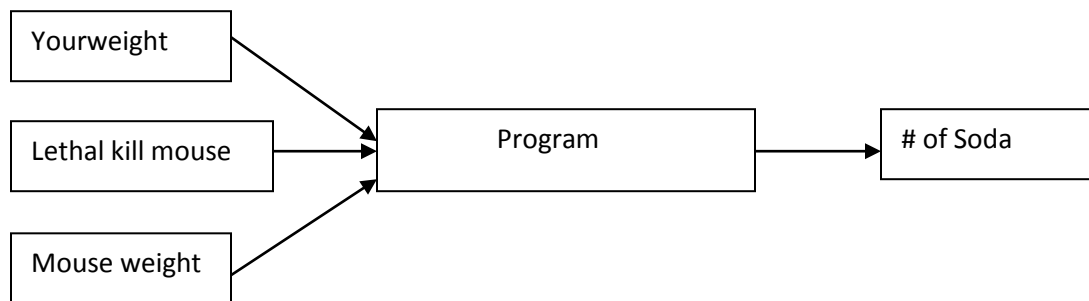


## COMP2710 – Homework 1: Design

A government research lab has concluded that an artificial sweetener commonly used in diet soda will cause death in laboratory mice. A friend of yours is desperate to lose weight but cannot give up soda. Your friend wants to know how much diet soda it is possible to drink without dying as a result. Write a program to supply the answer. The input to the program is the amount of artificial sweetener needed to kill a mouse, the weight of the mouse, and the weight of the dieter. To ensure the safety of your friend, be sure the program requests the weight at which the dieter will stop dieting, rather than the dieter's current weight. Assume that diet soda contains one-tenth of 1% artificial sweetener. **Use a variable declaration with the modifier `const` to give a name to this fraction.** You may want to express the percentage as the double value 0.001.



$$\frac{soda * rate}{YourWeight} = \frac{lethal\ kill\ mouse}{mouse\ weight}$$
$$soda = \frac{lethal\ kill\ mouse}{mouse\ weight} * \frac{Your\ weight}{Rate}$$