Lab 2 - Homework

1. Design a program that estimates the amount of water saved in a community by installing low-flow shower heads in every household. Assume an average of 4 persons per household, 1 shower/day per person at 8.2 minutes per shower. A regular shower head uses 7.9 liters per minute. A low flow shower head uses 6.6 litres per minute.

2. Design a program that estimates the amount of time required to mow a yard given the length and width of the yard, the length and width of the house and the length/width of an optional outbuilding (shed or garage). Assume that the person mowing is moving at 4.8 kilometers per hour and that the lawn mower has a width of 20 inches.

3. Design a program that will predict how many large pies can be made with a given weight(in kilograms) of apples. You can assume that a kilogram of apples is about 6.5 apples. A single large pie requires 7 apples. In every 5 kilogram basket of apples there will be, on average, 3 bad apples that must be thrown away.

4. Design a program to calculate the score required on a final exam given the current average (as a percent) of the student and the weight of the final exam (as a percent). The program should allow the user to select a minimum and maximum for the desired final grade and should provide the user with a chart of predicted final grades and final exam grades within that minimum/maximum range.