Assignment 1.2

Variables, Calculations and SimpleGraphics

Submit a single zip file called **assignment1b.zip**.
This assignment has 20 marks.
See the marking scheme that is posted on the course webpage.

Problem 1 (Grade Calculations)

Write a program that computes the final grade for a student. Your program will prompt the user for the following input: assignment grade, midterm grade, tutorial grade, and final exam grade. Each grade is a percentage between 0 and 100 and may contain decimals (e.g., 83.5). The final grade should be calculated using the following weights:

Assignment	50%
Midterm	15%
Tutorial	10%
Final Exam	25%

Your program must print out the final grade of the student, calculated based on the input values and the weights specified above. You can assume that the input will always be a number, though it may have decimals.

Save your Python program in a file called **a1q1.py** and add it to your submission zip file.

Problem 2 (Guessing Game, version 1)

Write a program that generates a random number between 1 and 100 (inclusive) and prompts the user to guess the number. The user only gets one guess. Your program should respond to the user's guess by telling them how far from the number they were. Your program should not include a negative sign in this number (i.e., you need to calculate an absolute value). For this question, you will need to generate a random number and calculate an absolute value. You should look through the documentation for Python's math and random modules to figure out how to do this.

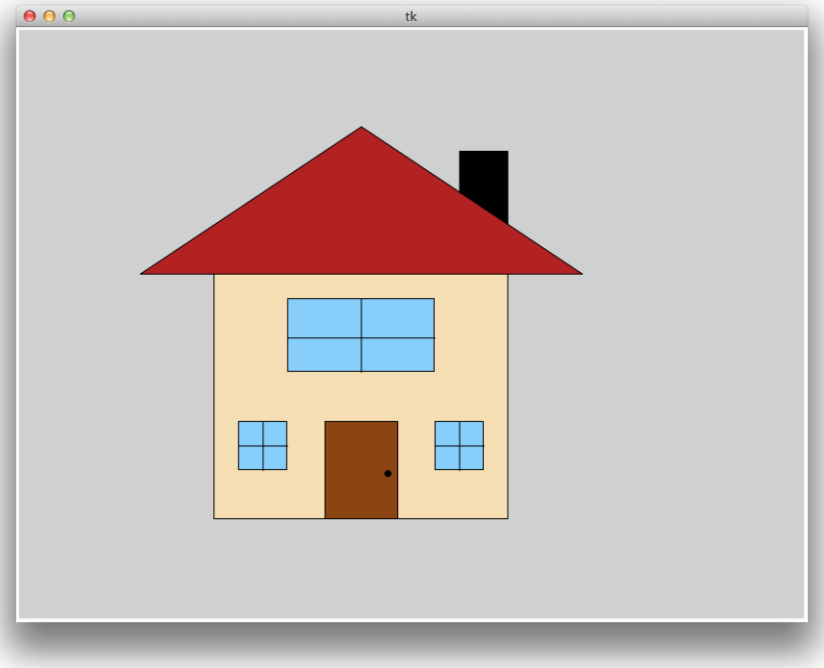
Save your Python program in a file called **a1q2.py** and add it to your submission zip file.

Problem 3 (SimpleGraphics Drawing)

In this problem you will draw a picture using SimpleGraphics. Your program must meet the following criteria to receive full marks:

- You are **NOT** allowed to use resources other than the SimpleGraphics library.
- Your picture must use at least **four different graphics primitives** (rect, ellipse, etc.).
- Your picture must use at least **four different colours** (not including the background).
- The different shapes and colours must be **easily** recognizable.
- Your picture must look like something real (sorry, no abstract art!)

Sample output might look like (a true masterpiece, really):



Save your code in a file named **a1q3.py** and add it to your submission zip file.

Recap

Your zip file should contain your **a1q1.py**, **a1q2.py**, and **a1q3.py** files.
Submit your **assignment1b.zip** file to cuLearn.
Make sure you download the zip after submitting and verify the file contents.
