CS 100 Project One – Fall 2017

Project Overview: If you've ever spent much time around old people, you have probably heard all sorts of unique expressions. Things like "*don't plant corn in the winter*" and "*don't pet strange dogs*" and "*money weighs you down.*" Most people just nod their head and keep going. For overly literal CS students, you might wonder how much your money actually weighs. That is, if you put all your $20 bills, $10 bills, $5 bills, $1 bills, quarters, dimes, nickels, and pennies on a scale, then how much would it weigh?

Your program should read eight numbers (all integers) from the user, using the format shown below (where the program prompts are shown in blue and the user input is shown in red). Your program should ask for twenties, tens, fives, ones, quarters, dimes, nickels and pennies. You must ask for these eight values in this order.

```
Enter the number of $20s you have: 3
Enter the number of $10s you have: 1
Enter the number of $5s you have: 4
Enter the number of $1s you have: 15
Enter the number of quarters you have: 9
Enter the number of dimes you have: 26
Enter the number of nickels you have: 53
Enter the number of pennies you have: 589
```

You probably already know that all the bills printed by the U.S. Treasury's Bureau of Engraving and Printing weigh one gram. You might not know the weights of all the various coins. The link below has that information:
https://www.usmint.gov/about_the_mint/index583f.html?action=coin_specifications

When converting your weight to pounds, use the following conversion factor: **1 gram = 0.00220462 pounds**

Your program should generate the four lines of output shown below for the input above:

```
You have 105 dollars in bills and 1339 cents in change.
The weight of your bills is 0.050706 pounds.
The weight of your change is 4.073031 pounds.
Your money can go a total of 4.123737 pounds.
```

What You Need To Do

- Create a directory **`project1`** on your machine. In that directory, create a file named **`weight.c`**
- In **`weight.c`**, write the code needed to solve the problem stated above. Make sure that your program:
  - Has a header block of comments that includes your name and a brief overview of the program
  - Reads eight values. You may assume that all input for this program will be legal input (non-negative integers). Do not modify the expected input format or order.
  - Prints the four expected outputs
    - The total value of this money (total value of the bills and total value of the change)
    - The weight of the bills, weight of the change, and total weight of your money (3 lines)
- Once you have a working program, feel free to enter some sample data and then post the results to Piazza. See if others agree with your answers.
- When you are ready to submit your project, bundle your **`project1`** directory into a single (compressed) zip file. See the **Basics** document on Blackboard if you do not remember how to do this.
- Once you have a compressed zip file that contains your **`project1`** code, submit that file to Blackboard.

Project 1 is due at 5:00pm on Friday, September 8. Late projects are not accepted.