

CSC2100 PROGRAM ONE

MONTHLY BUDGET PROGRAM



Assignment Date:

Monday, February 1, 2016

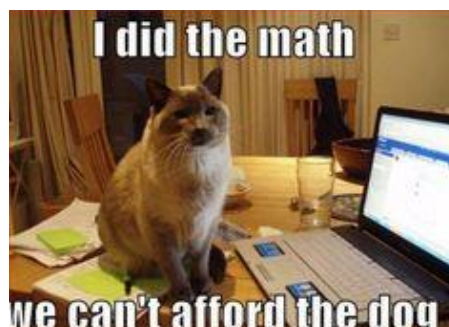
Due Date:

Friday, February 12, 2016 (by midnight)

I will accept Program 1 late but I will subtract 5 points per day for the first 5 days (Saturday & Sunday count as one day).
Your program WILL NOT be graded after 5 days overdue.

What do I Turn In?

Upload your source file (prog1.cpp) to the PROGRAM ONE dropbox folder on ilearn.



Description:

You will write a monthly financial budget program in C++ using the MinGW or Cygwin compiler.

INPUT:

- Monthly income
- Bills (Rent, Water & Electricity, Internet, Phone, Car Payment, Gas, Insurance, Groceries, Dining Out, Useless Stuff You Don't Need)

PROCESSING / CALCULATING:

- Current Balance (the balance left over after subtracting all the bills from the monthly income)

OUTPUT:

- A statement at whether the user will have money left over or not.
- Amount left over.
- Advice if the user has a negative balance.

Program One Specifications (RULES):

How to Fail the Class

Your program must be YOUR efforts only – not those of your classmates. Working with classmates on this program is considered **cheating**, which will earn an 'F' in the course. DO NOT DO IT!!! Get help from me or one of the awesome tutors if you are stuck!!!

Never ever share your CSC2100 programming assignment code with anyone else. Ever. I really mean it.

Comments, Variables, & Indentions

- You must have a comment block at the top of your code and comments in your main function as specified in the document under "PROGRAM ASSIGNMENTS" in ilearn called "**Commenting in your Programs**".
- You must define your variables with the correct data type and with good variable names.
 - The user's first name must be defined as string.
 - Assume that all amounts in the program are floating point variables.
- You must indent your code as specified in the document under "PROGRAM ASSIGNMENTS" in ilearn called "**Indentions in your Programs**".

Output

- Your output to the screen should contain no spelling or grammatical errors and should have plenty of white space to make sure it is readable. Make sure your output looks similar to mine. You are allowed to change the wording to suit your personality as long as you are not rude & do not use vulgar language.

Compiling your Program

Your program must be able to be compiled with g++ from the command prompt or terminal (not an IDE). There should be no syntax errors and NO WARNINGS when compiling your code.

Program One Hints:

1. Practice **INCREMENTAL PROGRAMMING**!! This is where you only write a few lines of code and then you compile & run your program to make sure these lines work. If they work, then move on to the next few lines. This way, you will take care of syntax errors a few at a time instead of getting a huge list that will be overwhelming.
2. Seek help from the CSC2100 tutors!! They are paid to help you with your programs. Do not expect that they will just give you the lines of code to write, but they will help you when you are stuck to know what the next step is or they can help you get past troublesome syntax or logic errors.
3. Attend Omari Smith's SI Sessions!
4. You will have a variable that will keep up with the current balance (I called this variable `currentBalance` in my program).

```
float currentBalance = 0.0;
```

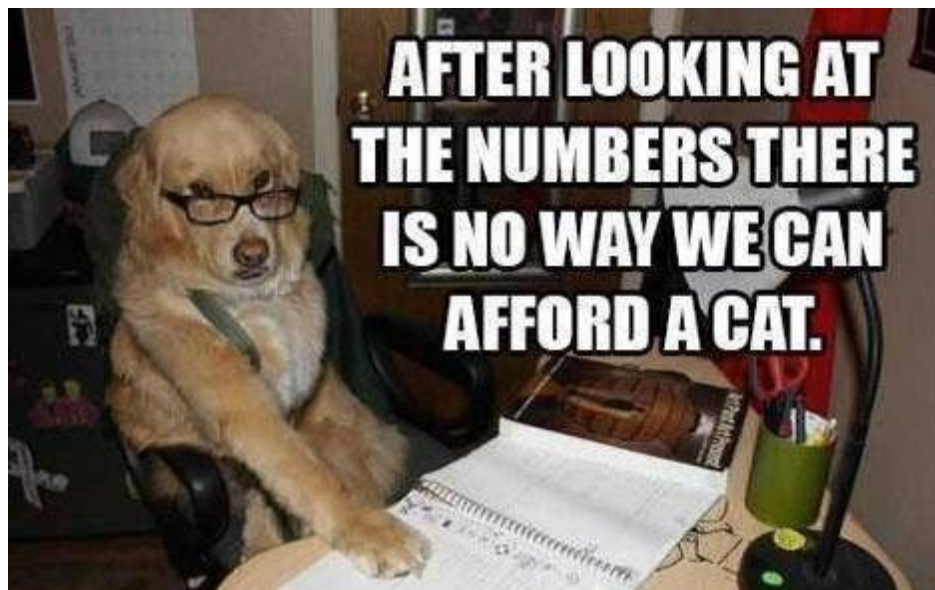
After you get the user's income, you will set the current balance to their income. Then you will subtract each bill from this balance as the user enters in the amounts.

5. At the end of the program, you will check to see if the current balance is less than zero. If it is, then you will print out that the user has a negative balance. In order to make your output look like mine, you will have to multiply the current balance by negative 1 (-1) so that when you print it out it will not have a negative mark in front of the value. The parenthesis will be printed out as text. C++ has no way of printing out numbers with dollar signs or parenthesis...the programmer has to add those symbols in himself/herself as I demonstrate below

```
number = 4;  
cout << "I am printing a negative number: ($" << number << ")!\n";
```

would print out to the screen

```
I am printing a negative number: ($4)!
```



Sample Output:

```
Command Prompt
F:\CSC - new\PROGRAMS\PROGRAM ONE - budget>prog1

What is your first name? April

April, what is your current monthly income?
INCOME: $ 2500.50

Great! Now I am going to ask you about your bills.
How much do you usually spend on the following:
RENT: $ 500
WATER & ELECTRICITY: $ 165
INTERNET: $ 60.50
PHONE: $ 155.55
CAR PAYMENT: $ 350
GAS: $ 160.78
INSURANCE: $ 86.34
GROCERIES: $ 358.30
DINING OUT: $ 345.34
USELESS STUFF YOU DON'T NEED: $ 85

Good job! You will still have $233.69 in your account after paying
all your bills and even spending your money on useless stuff!!

F:\CSC - new\PROGRAMS\PROGRAM ONE - budget>
```

Another example, where the user doesn't have enough money for their bills:

```
Command Prompt
F:\CSC - new\PROGRAMS\PROGRAM ONE - budget>g++ prog1.cpp -o prog1
F:\CSC - new\PROGRAMS\PROGRAM ONE - budget>prog1

What is your first name? Cletus

Cletus, what is your current monthly income?
INCOME: $ 1500

Great! Now I am going to ask you about your bills.
How much do you usually spend on the following:
RENT: $ 570.50
WATER & ELECTRICITY: $ 100
INTERNET: $ 0
PHONE: $ 850
CAR PAYMENT: $ 0
GAS: $ 0
INSURANCE: $ 0
GROCERIES: $ 500
DINING OUT: $ 0
USELESS STUFF YOU DON'T NEED: $ 1250.34

Whoa! You have a negative balance of ($1770.84)!
I suggest you either get a better-paying job or try to reduce your bills!!

F:\CSC - new\PROGRAMS\PROGRAM ONE - budget>
```