

Assignment 1 – Money Change

CS244

Due: Feb 04, 2014, 11:59 PM

Late penalties will be as described in the syllabus.

Overview

Explore and acquaint yourself with Ubuntu Linux, g++, and get back into programming mode
Topics: Basic input/output, Basic Arithmetic, Using Variables, Commenting

General Objectives:

Explore and learn about:

main() function, using namespace std, input and output: cin and cout with operators >> and <<, preprocessor directive: #include

Practice

Downloading Starter code off D2L

Compressing Code (tar and gzip)

Submitting Code to D2L

First Step

In Linux in your .../Documents/Programs folder

Create a folder named **A01**

This is necessary as you will compress the A01 folder and its contents for submission.

Second Step Check D2L

There may be starter code for this assignment. Likely posted near where this document was found. It may make things easier, but you are not explicitly required to use it.

**The 1 file you will need for this assignment MUST be named:
MoneyChange.cpp**

with your main() function located in MoneyChange.cpp.

All files should have comments with the file name, your name, the last modified date, and a description of the file contents. Each function should be appropriately commented in the header and implementation files. The body of each function may need comments for the less than obvious parts of the code (if any).

Main Function Description

- The goal is to make a program that breaks a given number of cents into units of currency.
- Your program should first ask the user to enter the total number of cents.
- It then displays the amount broken down into the individual units of currency:
 - Dollars, quarters, nickels, dimes, pennies
 - Do NOT use fifty cent pieces or any “bills”
 - An example is shown below, where the user entered 1258 cents.
 - For simplicity, we will use the plural of all currencies, so "1 nickels" is acceptable.
- Your program MUST use the maximum amount of the largest currency, starting with dollars on down.
 - So it is unacceptable in the example above to simply say "1258 pennies".

```
Enter total cents: 1258
This corresponds to 12 dollars, 2 quarters, 0 dimes, 1 nickels, and 3 pennies.
Press any key to continue...
```

Tester File

- N/A

makefile

N/A

To Compile at the Command Line Type:

g++ MoneyChange.cpp

To Run the executable created at the Command Line Type: ./a.out

Suggested Steps to Complete this Assignment

- Keep it simple.
- Use good variable names
- Make sure you put the file name, your name and a program description in the comments at the top of the program file
- There is a starter file on D2L

Grading

100 points possible

Various test inputs will be used by the grader.

Comments and code formatting will be examined.

Some (but not all) guaranteed ways to lose points include:

Minus 90 if the program fails to compile

Minus 90 if the program fails to run to completion

Minus 90 for any infinite loops

Minus 30 for failure to put name in comments at top of file

Minus 30 for failure to put the due date in the comments at top of the file

Minus 10 for incorrect source filename

Bonus Points

There may be in-class work that can be submitted for bonus points to be applied to this assignment. However, total score will not be increased beyond the 100 points possible.

Turn-In Directions

Correctly submitting your work is worth 0 points, BUT if not done correctly will likely result in nothing to grade.

Preparation

In Ubuntu Linux browse to your A01 folder
Make sure your source code files are in the folder

**Right click on the A01 folder,
Select Compress...**

Set the file name to be `A01_yourlastname.tar.gz`
where *yourlastname* is your last name
Example: if your last name is Gollygee
then the filename would be `A01_Gollygee.tar.gz`

Click on the Create Button

This should create the file named `A01_yourlastname.tar.gz`

Submit

Submit the `A01_yourlastname.tar.gz` file
to the correct course drop box in D2L

