SYSC 2100, Winter 2013
Assignment 1: Recursion
Due: January 30, 2013
(Due at noon that day)

Develop a recursive method to determine the number of distinct ways in which a given amount of money in cents can be changed into quarters, dimes, nickels, and pennies. For example, if the amount is 17 cents, then there are six ways to make change:

- 1 dime, 1 nickel and 2 pennies;
- 1 dime and 7 pennies;
- 3 nickels and 2 pennies;
- 2 nickels and 7 pennies;
- 1 nickel and 12 pennies;
- 17 pennies.

Here are some input/output pairs. The first number in each pair is the amount, and the second number is the number of ways in which that amount can be changed into quarters, dimes, nickels and pennies:

- 5 2
- 10 4
- 17 6
- 25 13
- 42 31
- 61 73
- 99 213

Develop a recursive solution for this problem. The user should be prompted for the amount, with the output being displayed along the following lines:

```
Number of ways that 67 can be changed into coins is 87.
```

Submission Requirements: Submit your assignment (the source files) using WebCT. Your program should compile and run as is in the default lab environment, and the code should be well documented. Submit all Java class files without using any archive or compression as separate files. The main program should be called **ChangeMain.java**, if you need to define additional classes etc., you are free to name them according to your own needs. But the TA(s) should be able to run your application by entering **`java ChangeMain`** on a command-line.

Marks will be based on:

- Completeness of your submission
- Correct solution to the problem
- Following good coding style
- Sufficient and high-quality in-line comments
- Adhering to the submission requirements

The due date is based on the time of the WebCT server and will be strictly enforced. If you are concerned about missing the deadline, here is a tip: multiple submissions are allowed. So you can always submit a (partial) solution early, and resubmit an improved solution later. This way, you will reduce the risk of running late, for whatever reason (slow computers/networks, unsynchronized clocks, failure of the Internet connection at home, etc.).
In WebCT6, you can manage the submission until the deadline, taking it back, deleting/adding files, etc, and resubmitting it. The system also provides online feedback whether you submitted something for an assignment. It may take a while to learn the submission process, so I would encourage you to experiment with it early and contact the TA(s) in case you have problems, as only assignments properly and timely submitted using WebCT will be marked and will earn you assignment credits.