CS150 Lab 6

Better Payment

Date Assigned: Tuesday, October 4, 2005

Date Due: Thursday, October 6, 2005

Points: 15

Objectives

Working with loops and formatted output in C++.

Problem statement

Determine whether you would prefer to be paid $1,000.00 a day for 25 days or a penny the first day, two pennies the second, four pennies the third day and so on, doubling the amount you made the previous day

Sample output

You need to output the amount made for each day for each of the two payment methods. After outputting the amount for each of the 25 days, you need to print out the total you've made for each method. So your output will look like this:

```
    Day    Thousands        Doubling

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      1     1000.00              0.01

      2     1000.00              0.02

. . . . . . .

     25     1000.00        whatever the amount is

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    Total          ?                 ?
```

Steps for software development

1. First, we need to understand the program requirements. What needs to be calculated? Is there any additional information that we need?

2. Next, we need a program analysis. Answering the following questions will help guide you through the process.

    (a) What is the input to your program? What units will it be in?

    (b) What is the output to your program? What units will it be in?

    (c) Is there any data that will be internal to your program?

    (d) What are the calculations needed for your program?

3. What is the algorithm to solve this problem? Here you should describe in English the steps for solving the program. This is the place where you decide the specifics of your program. For example, if you need to use the `if` selection structure or the `while` repetition structure.

4. Create a new project in Visual Studio .NET. You should name your project "06MoneyPUNetId", where PUNetId is your own id. I would name my project "06Moneykhoj0332". While working on a project, it should be located on the current computer you are working on (i.e. the desktop). Once you have completed developing, you should copy the project folder onto Turing.

5. Write the code that will solve the problem. Make sure that you add comments to the code as you type and that your code follows the coding standards

6. How can you verify that your program works correctly? What numbers would you use to test the program.

What to turn in

When you have completed writing the program and you have verified that it works correctly, you will need to show it to the instructor or the TA.

Once you have done this you will submit the project for grading. You submit your program by placing a copy of the project folder in the "CS150-01 Lab" folder on Turing. Make sure that you also place a copy of the project folder in your own folder on Turing.