CS150 Lab 7

Gross Pay

Date Assigned: Tuesday, October 11, 2005

Date Due: Thursday, October 13, 2005

Points: 15

Objectives

Working with loops and switch statements.

Problem statement

Write a program that calculates how much money is needed to pay the weekly salary of all the employees of a company. The company pays its employees as follows:

- Managers receive a fixed weekly salary

- Hourly workers receive a fixed hourly wage for the first 40 hours they work, then 1.5 times the hours they work for overtime

- Commission workers receive $250 plus 5.7% of their gross weekly sales

- Piece workers receive a fixed amount of money per item for each item that they produce

Your program must ask the user to enter select the type of employee by entering the appropriate character (M for manager, H for hourly worker, etc.), then depending on the type of employee the program should ask for the appropriate information and calculate the employee's salary.

The user will continue doing this for all employee's until they enter E for end, in which case your program will output the total amount needed to pay the employees.

You must use the switch selection structure in your solution.

Sample output

An example of the the program output is shown on the following page:

```
/************************************************/
/*                  Gross Pay                */
/************************************************/
```

This program calculates the total amount ofmoney needed to pay employees.

Please enter the employee type:

  M: Manager

  H: Hourly Worker

  C: Commission Worker

  P: Piece Worker

  E: End

Your selection? M

What is the manager's salary? $600

Your selection? H

What is the employee's hourly wage? $12

How many hours did the employee work? 44

This employee's salary is $552

Your selection? E

The gross amount required to pay the 2 employees this week is $1152

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 any selection or repetition structures.

4. Create a new project in Visual Studio .NET. You should name your project "07GrossPayPUNetId", where PUNetId is your own id. I would name my project "07GrossPaykhoj0332". 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.