Teresa Potts CITP110-040 Jan 29, 2013

25 points Homework Assignment #3B

Objectives:

1. Use Wing IDE 101 to write the program code by following the provided logic diagrams.
2. Follow the class standards for coding and submitting the program.
3. Watch the associated video tutorial “Flowcharts and Functions in Python” and study the “Designing a Program – Tax” example program.
4. Create a program using 3 functions as shown in the logic diagrams.
5. Use various arithmetic operators to do calculations.
6. Use local variables and global constants.
7. Pass variables to a function.
8. Use format specifiers for two decimal digits for each output value.

Download Wing IDE 101 (use the link in the External Links folder), install it, and use it to enter and run your Python program. Read Chapter 3 in the Flowcharting Guide.

This program will compute the amount telephone solicitors will be paid each week. Their pay is based on the number of hours they work and a commission amount. Everyone is paid $7.50 per hour worked plus they receive a 5% sales commission. In addition, 25% of their pay is withheld for income taxes and other expenses. Use global constants for these three values. Input for the program is the employee’s name, the total sales they have generated for the week, and their hours worked. The output shows the hourly pay amount, the commission amount (commission rate times sales amount), the gross pay (hourly pay plus commission), the withholding amount, and the net pay (gross pay minus the withholding). Since all of these output values are dollar and cent amounts, they must be printed with a dollar sign and 2 digits to the right of the decimal point.

By following the logic diagrams provided, fill in the rest of the chart below to calculate the correct output for the input test data shown for each employee. This will ensure that you understand the calculations and will also be used to verify your program produces the correct output when you test it.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| employee’s name | sales amount | hours worked | hourly pay amount | commission amount | gross pay | withholding amount | net pay |
| Eric | 1000 | 30 | $225.00 | $50.00 | $275.00 | $68.75 | $206.25 |
| Sue | 1500 | 20 | $150.00 | $75.00 | $225.00 | $56.25 | $168.75 |
| Ralph | 2000 | 40 | $300.00 | $100.00 | $400.00 | $100.00 | $300.00 |
| Marty | 750 | 15 | $112.50 | $37.50 | $150.00 | $37.50 | $112.50 |

Submit the following inside a compressed folder using the D2L drop box for Homework 3.

1. The completed table of test data shown above. (5 points)
2. A Python program implementing the solution which exactly matches what isshown in the hierarchy chart and flowchart provided (be sure to follow the class coding standards). (20 points)