CS 112 - Assignment 2b

You will be asked to create two different programs. These programs are a bit more complex than those in Assignment 2a. Still, they are only several lines of code. Submit a separate file to the Dropbox for each program (Assignment 2b-1.py, Assignment 2b-2.py). You will need to pass off the assignments with the TA or tutor during their office hours (their information is in the CS 112 Course Information section of the Table of Contents), or the instructor in class. Follow the formatting guide which is also found in the CS 112 Course Information section.

Read the instructions carefully. Make sure your output matches the example run.

Program 1 (Assignment 2b-1.py)

Objective: mathematical operators, multiple operations, output, and input

Suppose you want to make a $200 deposit into a new credit union account each month. Assume that the credit union where you deposit your money has an interest rate of 1.1%. You want to calculate the balance after three months.

We know that the annual interest rate is 1.1% or .011.

The monthly interest rate is then .011/12 or .00092 (rounded)

If you deposit $200 each month for three months, then:

Your balance after one month is:

This month's deposit * (1 + monthly interest rate) = balance after one month

200 * (1 + .00092) = 200.18

Your balance after two months is:

(This month's deposit + previous balance) * (1 + monthly interest rate) = balance after two months

(200 + 200.18) * (1 + .00092) = 400.55

Your balance after three months is:

(This month's deposit + previous balance) * (1 + monthly interest rate) = balance after three months

(200+400.55) * (1 + .00092) = 601.10

Now write a program which will ask the user for any monthly savings amount, any yearly interest rate and then calculates the balance after 6 months.

> This program will ask the user for a monthly deposit, an annual interest rate and then calculate the balance after 6 months.
>
> Please enter the amount to be deposited each month: 100
> Please enter the annual interest rate percent: 5
>
> The ending balance after 6 months is: 608.81
> >>>

Program 2 (Assignment 2b-2.py)

Objective: mathematical operators, multiple operations, output, and input

Write a program that collects employee data and then prints payroll information. Make sure you test the program with your own data. Your program should look EXACTLY like the example but with different data. The type of information you need to gather can be seen in the example below.

Example Run

> This program will ask the user questions about an employee and then display the employee's payroll information.
>
> Please enter the employee's last name: Young
> Please enter the number of hours worked this week: 40
> Please enter the employee's hourly pay rate: 8.50
> Please enter the employee's federal tax rate percentage: 15
> Please enter the employee's state tax rate percentage: 4
> Employee name: Young
> Hours Worked: 40
> Pay Rate: $8.5
> Gross Pay: $340.0
> Deductions:
>   Federal Withholding: $51.0
>   State Withholding: $13.6
>   Total Deductions: $64.6
> Net Pay: $275.4
> >>>