

CS 112 Assignment 5b

Submit your finished code to the Dropbox. 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: Improved Interest Calculator

Back in assignment 2b-1 you were asked to create a program that would calculate the balance of a savings account after 6 months. In this assignment, we will revisit the monthly interest calculation program but add one additional feature. In this program you will add the ability for the user to enter the number of years they plan on saving.

Key program requirements:

- Your program must ask the user for:
 - the amount to be deposited each month
 - the annual interest rate percentage
 - the number of years they wish to save.
- Your program must perform input validation on all three numbers entered by the user to ensure they are all whole numbers (integers). We will not be asking the user to input floats in this program.
- Print out the monthly balance over the specified saving duration. Remember to include both the first and last month of your period. Example: A 2 year savings plan would calculate months 1 – 24.
- Make sure that your program follows the Example Run shown below and that the balance shown each month is rounded to two digits and includes a '\$'.

Example Run

This program will ask the user for a monthly deposit, an annual interest rate and the number of years the user plans on saving.

It will then show the monthly balance over the period of planned saving.

Please enter the amount to be deposited each month: Lots!

Invalid response. Please enter a whole number.

Please enter the amount to be deposited each month: 250

Please enter the annual interest rate percent: 3.5

Invalid response. Please enter a whole number.

Please enter the annual interest rate percent: 3

Please enter the number of years you plan to save: 2

The following table shows the balance of the account for each month of the designated savings period.

Month	Balance
Month 1:	\$250.62
Month 2:	\$501.88
Month 3:	\$753.76
Month 4:	\$1006.27
Month 5:	\$1259.41
Month 6:	\$1513.18
Month 7:	\$1767.59
Month 8:	\$2022.63
Month 9:	\$2278.31
Month 10:	\$2534.63
Month 11:	\$2791.6
Month 12:	\$3049.2
Month 13:	\$3307.45
Month 14:	\$3566.34
Month 15:	\$3825.88
Month 16:	\$4086.07
Month 17:	\$4346.91
Month 18:	\$4608.4
Month 19:	\$4870.55
Month 20:	\$5133.35
Month 21:	\$5396.81
Month 22:	\$5660.93
Month 23:	\$5925.7
Month 24:	\$6191.14

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