
Programming Assignment 2: Software Sales

COP 3035 - Fall Term 2019

Point Value: 100 points

Project Due : 11:59 PM on Tuesday 9/24/2019

This assignment requires you to design and write a Python program on your own for the first time this semester. You will write and submit a program which meets the requirements described in this write-up.

Learning Objectives

- To gain experience designing and writing your own Python program using the required Python IDLE
- To use standard functions to perform interactive I/O
- To practice output formatting
- To write arithmetic expressions, logical expressions and selection statements in Python
- To utilize named constants and variables appropriately

Problem Statement

A software company sells a package that retails for \$99.00. Quantity discounts are given according to the following table:

<i>Quantity</i>	<i>Discount</i>
10-19	20%
20-49	30%
50-99	40%
100 or more	50%

Write a program that asks the user to enter the number of units sold (as a whole number) and calculates the total cost of the purchase. Output the cost per unit after the discount is calculated, as well as the total price of the whole sale.

INPUT SPECIFICATIONS

Write this program using interactive I/O. In other words, your program must write friendly and informative prompts to ask the user for input, and as you run it, you will type in the input yourself. You will also print out well-formatted, clear output for the user. You must run the program multiple times to test it with different data values. Your program will only process one data value per run.

Input Validation: Make sure the number of units input is greater than zero. If it is less than or equal to zero, do not calculate a discount or a cost, and simply exit the program. See below for more information.

Test Data

Keep in mind that your program must work correctly for all possible valid data. Valid data will consist of any valid *integer* value. The graders will run your program and test it with various data, but you may assume that all data entered will always consist of a valid integer.

Bad Data Checking

You are assuming that the user types in a valid integer. If the user types in a zero or negative value, consider that bad data, print a message to that effect, and do not do any calculations.

Sample Run Output

Remember to use good style in your program, and make it as *user-friendly* as possible. The prompts and other output shown below demonstrate some acceptable choices. Your output must give all of the elements described, however you may be creative and use alternative prompts, labels, etc. as long as you utilize good style.

First run example:

```
=====
Welcome to the Software Sales Calculator
=====
```

```
How many units were sold? 0
Units sold must be greater than zero. Ending program run.
```

```
Execution Terminated Normally.
```

Second run example:

```
=====
Welcome to the Software Sales Calculator
=====
```

How many units were sold? 52
Your effective cost per unit is \$59.40
The total cost of the purchase is \$3088.80

Execution Terminated Normally.

Miscellaneous

Be sure to read and understand the sections in the Course Syllabus handout on general project requirements. Also be sure to study the style, documentation and formatting guidelines discussed in the *Programming Style Guidelines* handout and in the lecture, textbook and recitation sections. Be sure to check *Syllabus* handout for relevant required readings.

What File To Turn In, File Naming Requirements, and How to Turn In Your Work using Canvas

You must turn in your Python program source file which must be named as follows (note that you will have to rename the provided file!):

Use this format: *yourLastNameLowerCase_FSUID_p2.py*

Your FSUID will be unique to you, will typically be your FSU email ID, and will be something like "ab23c." Hence file names will look something like "smith_ab23c_p2.py"

Submit your Python file (.py) to Canvas using the Submit button for this assignment. Be sure to download the file after you submit it in order to check that you submitted the correct program file to Canvas and that it was successfully received by Canvas.

Last Update: A. F. Tyson 7/25/2019
