

Lab 2

Programming to C

CSCI 112, Fall 2020

Objectives

- Create functions.
- Practice using if statements.
- Practice providing complicated output to the user.

Description:

This comes from problem 1, chapter 4 on page 232-233.

A store provides discounts for the military based on the amount. In this program, you will prompt the user for the dollar amount purchased and whether they are in the military or not. It will then determine the discount, sales tax cost and total. It will print out this information in a neat way.

Need to know:

- If a person is in the military, they get a 15% discount if they spend \$150 or more. The discount for military is 10% otherwise. If they are not in the military, they get no discount.
- The sales tax is 5%

Requirements:

- Best practice: create a directory called lab2 to work in
- Run your program four times.
 - 1) inputs: \$217 and y (is in the military)
 - 2) inputs: \$80 and Y
 - 3) inputs: \$115 and n
 - 4) inputs: \$20 and x
- DO NOT USE GLOBALS.
- MUST COMPILE WITH -Wall
- Put tabs in your print statements to make them look neat
- Accept only y and Y for is in the military and accept n and N for not in the military
 - This means you must test for bad answer, print an error msg and return an error code (example 1)
- Must make a separate function to compute the discount
- Must make a separate function to print the results (can call the compute discount function)

- You must submit:
 - 1) Screen shot showing your successful compile and the three runs with the results.
 - 2) source code

Hints

- Use `\t` to add tabs to your output.
- To print a %, you must use the format `%%`

My Output

```
[k57h721@csci112 lab2]$ ./lab2
Cost of purchase:           $217
In military (y or n)?       y
Military discount (15%)     $32.55
Discounted total           $184.45
Sales tax (5%)              $9.22
Total                      $193.67
[k57h721@csci112 lab2]$ ./lab2
Cost of purchase:           $80
In military (y or n)?       Y
Military discount (10%)     $8.00
Discounted total           $72.00
Sales tax (5%)              $3.60
Total                      $75.60
[k57h721@csci112 lab2]$ ./lab2
Cost of purchase:           $115
In military (y or n)?       n
Sales tax (5%)              $5.75
Total                      $120.75
[k57h721@csci112 lab2]$ ./lab2
Cost of purchase:           $20
In military (y or n)?       x
Error: bad input
```

Submission

- Due Date: Sunday, 9/6 at 11pm

Each student will complete and submit this assignment individually. I will check for plagiarism. Labs submitted after the due date/time will not be accepted.

Grading

Points (100 pts)

- 5 points – comments explaining what your program does
- 10 points – indent your code so it is readable
- 15 points – submitted screenshot as required above
- 10 points – meets requirements above
- 20 points – compiles successfully with -Wall – no warnings
- 10 points – submitted source code
- 5 points – uses proper math equations to compute taxes and discount
- 5 points – prints the output in a pleasing manner and shows all the information (discount if any, price with discount subtracted, tax and total cost)
- 5 points – reads in the input with appropriate message to user
- 5 points – allows y, Y, n, N as input for military question
- 5 points – prints error msg if any other input for military question
- 5 points – makes 4 runs as specified above