

CIS 236 – Programming in C

Program:	Week 03
Points:	20
Chapters:	4 (selection only)

Description

The JJC Phone Store needs a program to compute phone charges for some phones sold in the store. There are two different pricing systems, depending on the phone purchased. Tax must be added on after the phone charge is computed. Each customer gets a neatly formatted receipt displayed to the screen.

Learning Objectives

In this assignment, you will:

- Use selection control structures
- Write arithmetic statements using C syntax
- Display neatly formatted output to the screen

Requirements

1. The user must be prompted appropriately.
2. All values related to money may include values after a decimal point. All values displayed to the screen must display with 2 places after the decimal.
3. The user must indicate whether or not the phone is an iPhone by typing a single character (y for yes, and n for no). Your program must be able to handle an upper or lowercase letter: Y, y, N, n.

Optional: Handle any other characters here by displaying an error message.

4. For iPhones only, additional charges for AppleCare will be calculated and added on to the purchase price. Prompt the user for the number of years of AppleCare they wish to purchase.

If the user chooses one year, the charge for AppleCare is 12% of the phone's price.

If the user chooses more than one year, the charge for AppleCare is 10% of the phone's price multiplied by the number of years.

The user cannot choose less than 1 year of AppleCare.

5. A tax rate of 5% of the purchase subtotal (which includes AppleCare charges if applicable) is used to compute the tax amount, which is then added to the purchase subtotal to determine the total purchase amount.
6. The results must line up at the decimal point, as displayed in the sample runs.
7. Don't forget to use `fflush(stdin)`!

Sample Run 1

```
Enter the price of the phone> 500.00
Is the phone an iPhone (Y/N)?> N
```

Price of phone	\$500.00
Sales tax (5%)	\$ 25.00
Total purchase	\$525.00

Sample Run 2

```
Enter the price of the phone> 600
Is the phone an iPhone (Y/N)?> y
Enter the number of years of AppleCare> 3
```

Price of phone	\$600.00
AppleCare price (10%)	\$180.00
Subtotal	\$780.00
Sales tax (5%)	\$ 39.00
Total purchase	\$819.00

Sample Run 3

```
Enter the price of the phone> 800
Is the phone an iPhone (Y/N)?> Y
Enter the number of years of AppleCare> 1
```

Price of phone	\$800.00
AppleCare price (12%)	\$ 96.00
Subtotal	\$896.00
Sales tax (5%)	\$ 44.80
Total purchase	\$940.80

Requirements for Full Credit on This Project

SUBMIT YOUR OWN WORK – Plagiarism is not tolerated in this course. Please review the section on the Academic Honor Code in the syllabus. I will not hesitate to drop you from this class if you submit a program that is plagiarized.

COMPLETE AND ACCURATE – Your program must compile, execute, and give accurate output.

FOLLOW ALL REQUIREMENTS ACCORDING TO THE INSTRUCTIONS – Follow the instructions as written for completing this project, even if you [think you] know a “better” way to do something.

COMMENTS – Include comments in your code. There must be a comment at the top of your program that includes your name, the program number, and a description of the program. There must be comments at each important step in your program that describes that step. Every variable must include a comment describing its purpose.

BEST PRACTICES – Follow best practices in C programming as discussed in class and in the textbook, including, but not limited to, appropriate use of white space, indenting, alignment, meaningful identifier names, etc. Points will be deducted for sloppy code that is hard to read, even if it works, so pay attention to these details.

SUBMIT ONLY .c SOURCE CODE – Pay attention to the file extension of the source code file you submit. I will deduct points for not following this requirement.

SUBMIT ALL FILES BEFORE THE DUE DATE – Submit your .c source code file to the dropbox for this assignment on Canvas before the due date. Do not submit executable files. Do not submit project files from an IDE. I will not accept links to online storage.