

CSCI-110-02 - Program 5 (*Prog5*)

Program Due: Dec 2, before 2:35 pm (submitted and printed and on my desk) The purpose of this program assignment is to refine our knowledge about the proper use of control structures. You are to write the following program to calculate the total charge of downloading certain number of movies.

You should prompt the user to enter the buyer's first name (string), last name (string), number of movies downloaded (int), the cost per downloaded movie (double) and the status of membership (int), where integer 3 indicates the buyer being a gold member, integer 2 indicates the buyer being a silver member, integer 1 indicates the buyer being a bronze member, integer 0 indicates that the buyer is not a member, in that order, each on a line by itself (with its own prompt). [We will assume each movie downloaded costs the same and all inputs from the user are valid.]

First you need to calculate the product charge. The product charge is defined as the sum of the base charge and the service charge, where the base charge is calculated by multiplying the number of movies downloaded by the cost per movie, and the service charge is defined by the following table (use ONLY ONE nested if-else statement to calculate the service charge):

Number of movies downloaded	Service Charge Calculation
Not more than 8	7% of the base charge
More than 8 but not more than 15	4% of the base charge
More than 15, but less than 20	2% of the base charge
20 or more movies	No service charge

Second you need to calculate the subtotal, which is the product of product charge and the discount rate, where the discount rate is defined by the following table (use ONE switch statement to assign discount rate to an appropriate variable):

Status of Membership	Discount Rate
Gold member	15% off
Silver member	10% off
Bronze member	5% off
Not a member	No discount

Third you need to calculate the total charge that is the sum of the payment and the corresponding tax, where the tax is 7

Finally, you need to output the following 7 pieces of data (appropriately formatted and labeled): buyer's full name, number of movies purchased, price per movie, service charge, payment, tax and total charge. Each piece should appear on its own line. Be sure that dollar amounts contain a dollar signs and two digits after the decimal point!

Call the project Prog2 zip the entire project directory

Submit your test data set with your hard copy of the program. Be sure to use the following subject line:

CSCI110 submit prog5

Sample Program Run (My side notes are enclosed in parentheses)

Enter your first name:

Yan (User enters Yan at keyboard)

Enter your last name:

Wang (User enters Wang at keyboard)

Enter the number of movies downloaded:

8 (User enters 8 at keyboard)

Enter the cost per movie:

3.99 (User enters 3.99 at keyboard)

Enter the status of membership:

3 represents gold member

2 represents silver member

1 represents bronze member;

0 represents nonmember:

1 (User enters 1 at keyboard)

Full Name: Yan Wang

Number of movies downloaded: 8

Price per movie: \$3.99

Service charge: \$2.23

Subtotal: \$32.45

Tax: \$2.27

Total charge: \$34.72

Comments and Programming Style Your program must include good documentation (comments) and exhibit good style in your formatting and choice of variable names.

1. Place "header comments" at the very TOP of your Prog2.cpp file.

```
/**
 * One or more sentences summarizing the purpose of the program.
 *
 * author: Your Name Here
 * date: Today's Date
 * Pledged: Your signature on the hard copy
 */
```

2. Variable names should begin with a lowercase letter, capitalize the first letter of subsequent words, and variable names should represent what value they hold.

Grading Criteria

- | | |
|---|-----|
| a) Compiling with no syntax errors | 15% |
| b) Print prompt message for the keyboard inputs | 10% |
| c) Nested if-else statement to decide the net payment | 40% |
| d) Statements to decide the payment and the total charge | 15% |
| e) Print out summarized information | 10% |
| f) Header comments, statement comments, pledged, good style | 10% |