

CMPS 150 – Fall 2005

Programming Assignment #3

2005.09.21

REVISED Due Date/Time !!!

Date Assigned: Wednesday, September 21, 2005

Due Date: 8:00 PM, Thursday, September 29, 2005

The coded solution to the following problem is to be done by you and only you. You may ask for help from the class teaching assistants and the instructors, but you may not ask for C++ help from anyone else. You may use your notes, C++ texts, online tutorials, etc., but the code must be your own.

If you have a problem with your class account, compiling or debugging your code, or if you are not certain if you have submitted correctly, come see a TA or instructor as soon as possible.

1) **Include the following information as comments in the header of your source code:**

```
Author:          Your-Name
CLID:           Your-login-ID
Class:          CMPS 150 Section Your-Section-Number
Assignment:     pa3
Date Assigned:  Wednesday, September 21, 2005
Due Date:       8:00 PM, Thursday, September 29, 2005
Description:    A brief description of the purpose of the
                program.
```

This is to be followed by this statement.

```
Certification of Authenticity:
I certify that this assignment is entirely my own work.
```

2) **While in your class folder, enter the C++ code for the following description into pa3.cc**

3) **Problem Description:**

This program will use the features of C++ that we have learned thus far in CMPS150: keyboard input of various types, variables, constants, arithmetic expressions, output and formatting specifications.

You are to write a program that calculates and prints the total ticket sales for a football game. There are four (4) types of tickets – box, sideline, premium and general admission. Box seats cost \$250, sideline tickets cost \$125, premium tickets cost \$75 and general admission tickets cost \$25. Your program must print all ticket information (see sample run) as well as subtotals and an overall total (see sample run). Since the numbers being processed are monetary values, display your output with two (2) decimal places.

An additional requirement is that each ticket purchased carries a fixed handling fee of \$2.50, regardless of the type of ticket.

Your program must first prompt the user for name of the purchaser (which may contain spaces). Then prompt the user for the number of tickets sold for each type ticket. After performing calculations needed for output, display the output to the monitor.

4) **Sample Run:** Your monitor output should look similar to the following (items underlined and italicized are input by the user at the keyboard):

```
Enter name of purchaser: Nona Leger Etheredge
Enter the following --
      Number of Box Seats: 2
      Number of Sideline Seats: 3
      Number of Premium Seats: 6
      Number of Gen'l Admission Seats: 10

-----
Receipt: Football Tickets
-----
Customer Name: Nona Leger Etheredge

Ticket Summary
      Box Seats ( 2@250.00)      500.00
      Sideline Seats ( 3@125.00)  375.00
      Premium Seats ( 6@ 75.00)   450.00
      Gen'l Admission Seats (10@ 25.00) 250.00

Handling Fee:                21@2.50      52.50

TOTAL COST:                    $    1627.50
-----
```

Another Sample Run:

```
Enter name of purchaser: Nona
Enter the following --
      Number of Box Seats: 0
      Number of Sideline Seats: 0
      Number of Premium Seats: 0
      Number of Gen'l Admission Seats: 2

-----
Receipt: Football Tickets
-----
Customer Name: Nona

Ticket Summary
      Box Seats ( 0@250.00)      0.00
      Sideline Seats ( 0@125.00)  0.00
      Premium Seats ( 0@ 75.00)   0.00
      Gen'l Admission Seats ( 2@ 25.00) 50.00

Handling Fee:                2@2.50      5.00

TOTAL COST:                    $    55.00
-----
```

IMPORTANT NOTE:

Files submitted that do not compile will receive a grade of zero !!!

5) Additional Requirements:

- All monetary output must be displayed with a precision of 2.
- Constants must be used for ALL values that are known prior to compile time and WILL NOT change due to user input, for example, the handling fee.
- Use comments as appropriate. Refer to the “Programming Style Sheet” on the CMPS 150 web site.
- Your program must use good names for all variables and named constants. (Good names are names that are descriptive of the values stored or the function performed.)
- Adhere to style requirements. See “Programming Style Sheet” on the CMPS 150 web site.

6) You MUST name your source file 'pa3.cc' and store it in your class directory (cs150x).

7) Compile your program and test it for all types of customers.

To compile:

```
g++ -o pa3run pa3.cc
```

To run (execute):

```
pa3run
```

8) After it is debugged and running correctly, submit pa3.cc (the source file only) electronically by 8:00 PM, Thursday, September, 29, 2005 to receive full credit.

```
submit -d pa3.cc
```

When asked to enter the CLID of the grader/TA, enter the appropriate one of the following:

<u>Section</u>	<u>TA</u>	<u>CLID of TA</u>
Section 3.....	Gesan	gxw2096
Section 4.....	Anca.....	axd9917
Section 5.....	Mitun	mxb2169
Section 6.....	Jason.....	jbm8240

You will be asked to enter which assignment is being submitted. This assignment is:

```
assn3
```

REMINDER: You may turn in programs up to 24 hours late for 75% credit, or up to 48 hours late for 50% credit.