PIC 10B SPRING 2013 HOMEWORK 3

Assignment

In class we used the example of having a Point2D base class with ColorPoint2D and WeightedPoint2D derived from it. In this assignment we will let the user input as many points as desired, and then print them out in order with the appropriate attributes.

The point of this assignment is to use polymorphism to make printing out the points easy no matter which type of point the user wishes to input. You must use polymorphism to receive full credit. Note also that the color of a point can consist of multiple words, e.g., Sea Green, so it is a good idea to use getline() instead of cin; recall that getline can get confused so .

Place your code in a source file labeled *hw3.cpp*. ***If your file is not named this exactly, your homework will not be collected***. As with all programs in this course, your code should contain useful comments. In particular, your name, the date, and a brief description of what the program does should appear at the top of your source file.

You may assume the user will input one of the numbers 0, 1, 2, 3 for the selection (i.e., no need to worry about a 4, -24, etc. as input). You may also assume that the user will correctly input numbers when appropriate and strings when appropriate.

What to Turn in

Place in your Submit folder the source file *hw3.cpp* with exactly this name (all lowercase, no spaces). The files will be automatically collected on Friday 4/19/13 at 5:00pm.

Grading		
Correctness	No errors, input/output correct, output presented nicely	5 points
Polymorphic	Correctly implements principles of polymorphism	5 points
Solution	Code is efficient but easy to follow	5 points
Style	Variable names, comments, indentation	5 points
	TOTAL	20 points

Note on grading: There is an automatic 5 point penalty for any homework that does not compile.

Date: April 4, 2013.

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Welcome to Point Printer! You can create three different kinds of points:

1. Point2D, e.g., (2,6.5)
2. ColorPoint2D, e.g., blue(-4.5,3.5)
3. WeightedPoint2D, e.g., .12(3.6,8.7)

Enter 0 when you are finished.

Selection: 1
x = 2
y = 3
Selection: 2
x = 3.3
y = 4.7
color = Sea Green
Selection: 1
x = 2.4
y = -7.8
Selection: 3
x = 7.8
y = 12.9
weight = 0.0001
Selection: 0

Your points are

1: (2,3)
2: Sea Green(3.3,4.7)
3: (2.4,-7.8)
4: 0.0001(7.8,12.9)
```