CSCI-15 Polymorphism Assignment #7 (50 pts) due 11/20/18

Modify your inheritance problem's classes to use virtual area and perimeter methods (at least) and allow polymorphism. Write a client program that creates the various shape objects as you did in the original assignment. These may have their default values, or you may read the values as before. However, there is no need to read values for this assignment.

Create an array of pointers to Quadrilaterals containing the addresses of the various shapes you defined, in ascending order by type, Quadrilateral to Square.

Print each shape's area, perimeter and the object (with the points, eventually, as before) directly (using a friend operator <<).

Add two functions to your client (one to take a pointer to and one to take a reference to a Quadrilateral) and print the perimeter, area and object for each shape by calling the shape's methods or friend functions inside these two functions.

Call the functions with a reference and pointer to each object you declared, then loop through your array passing the pointers (or dereferencing the pointers and passing the references) to print each shape's area, perimeter and object. Verify the values printed using polymorphism are the same as those printed by directly accessing the shapes.

Your friend operator << (and >>, if you use it) functions will have to be written as wrappers around virtual print (and read) methods for the polymorphism to work correctly.