HW09 – Abstract Classes & Virtual Functions [50 pts]

1. Create an abstract class called Shape with pure virtual members called calcPerimeter and calcArea. Create subclasses of Shape called Rectangle and Triangle that inherited the pure virtual members above.

2. Write two non-member functions called printPerimeter and printArea that call the methods calcPerimeter and calcArea respectfully.

3. Instantiate a Rectangle and a Triangle object.

4. Input the length and width of a rectangle and then call the functions printPerimeter and printArea.

5. Input the length of the three sides of a triangle and then call the functions printPerimeter and printArea.

6. Output the perimeter and area of the rectangle and triangle objects.

Use the command script to capture your interaction compiling and running the program, including all operations, as shown below:

CS1C Summer 2019 MTWTH HW09 50pts **Due: Fr 7/5/2019**

```
cs1c@cs1c-VirtualBox ~/cs1c/hw/09 $ script hw09.scr
Script started, file is hw09.scr
cs1c@cs1c-VirtualBox ~/cs1c/hw/09 $ date
...
cs1c@cs1c-VirtualBox ~/cs1c/hw/09 $ ls -l
...
cs1c@cs1c-VirtualBox ~/cs1c/hw/09 $ make all
...
cs1c@cs1c-VirtualBox ~/cs1c/hw/09 $ ls -l
```

...
cs1c@cs1c-VirtualBox ~/cs1c/hw/09 $ ./hw09

... // print out output from steps 4 thru 6

cs1c@cs1c-VirtualBox ~/cs1c/hw/09 $ exit
Script done, file is hw09.scr
cs1c@cs1c-VirtualBox ~/cs1c/hw/09 $ make tar
...
Submit the tar package file hw09.tar by Friday July 5, 2019.