

Advanced Object Oriented Programming – Inheritance, Polymorphism, Abstract Classes

1. Write a set of classes that could be used to do simple calculations on geometric objects. The set should include the following classes
 - a) `Shape`, containing abstract methods `area` and `perimeter`
 - b) `Rectangle`, a subclass of `Shape`, containing a constructor (with parameters for length and width) along with methods `area` and `perimeter`
 - c) `Triangle`, a subclass of `Shape`, containing a constructor (with parameters for the three sides of a triangle) along with methods `area` and `perimeter`
 - d) `Square`, a subclass of `Rectangle`, containing a constructor (with a parameter for the length of a side) and methods that invoke the methods of the `Rectangle` class to determine the perimeter and area of a square