

1 Classes and Data Abstraction III-Programming Challenges I

1. Create a class **Rectangle**, which has attributes **length** and **width**, each of which defaults to **1**. It has member functions that calculate **perimeter** and the **area** of the rectangle. It has set and get functions for both **length** and **width**. The set function should verify that **length** and **width** are each floating-point numbers larger than 0.0 and less than 20.0.

Hints:

- $\text{Perimeter} = 2 * (\text{length} + \text{width})$
- $\text{Area} = \text{length} * \text{width}$