

# SOLID Principles Exercise

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# The 1<sup>st</sup> Problem: Rectangle & Square

- ◇ You should find the following files inside the downloaded zip:
  - ◇ Rectangle.java  
Rectangle class contains width, height, and a method to calculate area.
  - ◇ Square.java  
Square class extends Rectangle and override some of its methods.
  - ◇ Main.java  
Main.java demonstrates the problem. Feel free to edit the file as you see fit.
- ◇ **Please refactor the Rectangle and Square class to avoid the problem from LSP violation!**
- ◇ **After refactoring, Rectangle and Square must be somehow related.**

# The 2<sup>nd</sup> Problem: Book Printing

- ◇ You should find the following files inside the downloaded zip:
  - ◇ Book.java  
Book class contains title, pages (a list of strings) and methods to print pages.
  - ◇ BookReader.java  
BookReader class demonstrates how a reader print pages from an instance of Book.
  - ◇ BookPublisher.java  
BookPublisher class demonstrates how a publisher print pages from an instance of Book.
- ◇ **Please refactor the Book class to avoid the problem from SRP & ISP violation!**

# About refactoring

- ◇ Refactoring must be done based on good OOP design.
- ◇ Feel free to add new files if you see fit!
- ◇ Please do not edit specified parts of the files as indicated by the comments.
- ◇ Please **DO NOT REMOVE** the code on your GitHub until your grade is out!!
- ◇ If any question, feel free to ask.