Problem 5.1, Stephens page 116
What's the difference between a component-based architecture and a service-oriented architecture?
-> A component based-architecture is different as you have multiple components providing services as opposed to service-oriented architecture where each service is implemented separately, often on separate computers.

Problem 5.2, Stephens page 116
Suppose you're building a phone application that lets you play tic-tac-toe against a simple computer opponent. It will display high scores stored on the phone, not in an external database. Which architectures would be most appropriate and why?
-> A monolithic architecture would work well as you do not need a database/external services for this application. You would need the application to be more data driven but you do not need anything overkill.

Problem 5.4, Stephens page 116
Repeat question 3 [after thinking about it; it repeats question 2 for a chess game] assuming the chess program lets two users play against each other over an Internet connection.
-> The architecture can be very similar to the one used in 5.2 as you simply need to add a peer to peer connection between the applications. It being a multiplayer game also implies that you do not need to code A.I. for chess making it a lot more simpler.

Problem 5.6, Stephens page 116
What kind of database structure and maintenance should the ClassyDraw application use?
-> Classy Draw does not need a large database as it simply saves documents/drawings so a document-oriented database will suffice.

Problem 5.8, Stephens page 116
Draw a state machine diagram to let a program read floating point numbers in scientific notation as in +37 or -12.3e+17 (which means -12.3 x 1017). Allow both E and e for the exponent symbol. [Jeez, is this like Dr. Dorin's DFAs, or what???]

Problem 6.1, Stephens page 138
Consider the ClassyDraw classes Line, Rectangle, Ellipse, Star, and Text.

What properties do these classes all share?
-> They all potentially share: Color, Coordinates, Height, and width

What properties do they NOT share?
-> They do not share: Font, String

Are there any properties shared by some classes and not others?
-> FillColor and LineThickness

Where should the shared and nonshared properties be implemented?
-> Rectangle, Ellipse, Star:
- Color, Coordinates, Height, Width, FillColor, LineThickness

-> Text
- Color, Coordinates, height, Width, Font, String

-> Line
- Color, Coordinates, Height, Width, LineThickness

Problem 6.2, Stephens page 138

Draw an inheritance diagram showing the properties you identified for Exercise 6.1. [Create parent classes as needed, and don't forget the Drawable class at the top.]