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Assignment 2

1. Problem 5.1

Component-based architecture makes each component of the product as separate as possible to best allow developers to work simultaneously in a non-conflicting way. Service-oriented architecture is similar, but breaks a product down into independent services, or self-contained programs, which provide clients with a specific functionality.

2. Problem 5.2

This tic-tac-toe game would be a monolithic application with a rule-based computer opponent. Since high scores are only stored on the user's phone a multi-tier, component-based, or service-oriented approach isn't needed, instead a monolithic approach is sufficient. Additionally, a simple rule-set is needed to make the computer opponent play a competitive game depending on the user's moves.

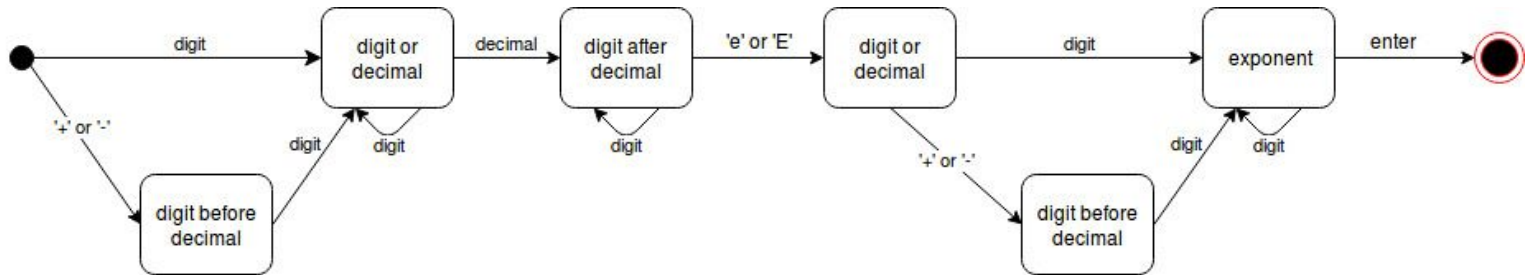
3. Problem 5.4

This chess program would be a event-driven client-server application. Since the game needs to be played across multiple platforms and two simultaneous users a client-server model is required to store and relay one player's moves to the other. This would also allow for games to be saved and played later. Additionally, since the game of chess is a series of moves, or events, alternating between players, the main logic of this application would be event-driven.

4. Problem 5.6

The ClassyDraw application should use the user's file system as a database, storing all drawings locally. While backup maintenance will be left to the end-user, there is no need for ClassyDraw to provide an audit-trail or old versions of files. Additionally, when a file is deleted this application will have no need to preserve it.

5. Problem 5.8

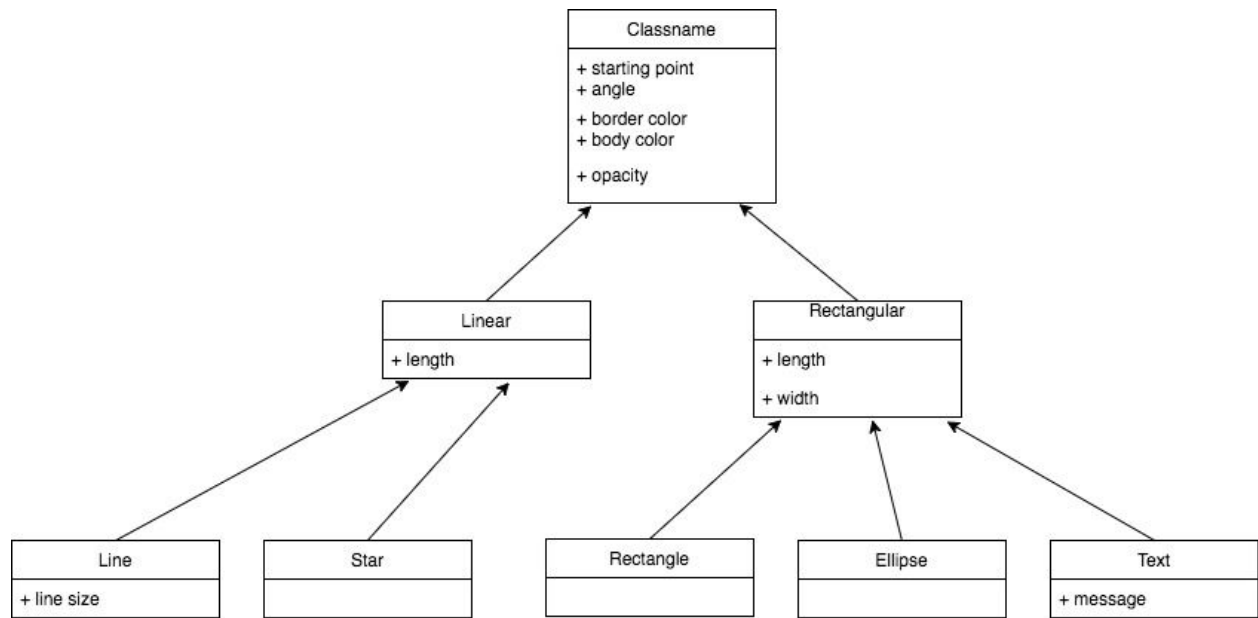


6. Problem 6.1

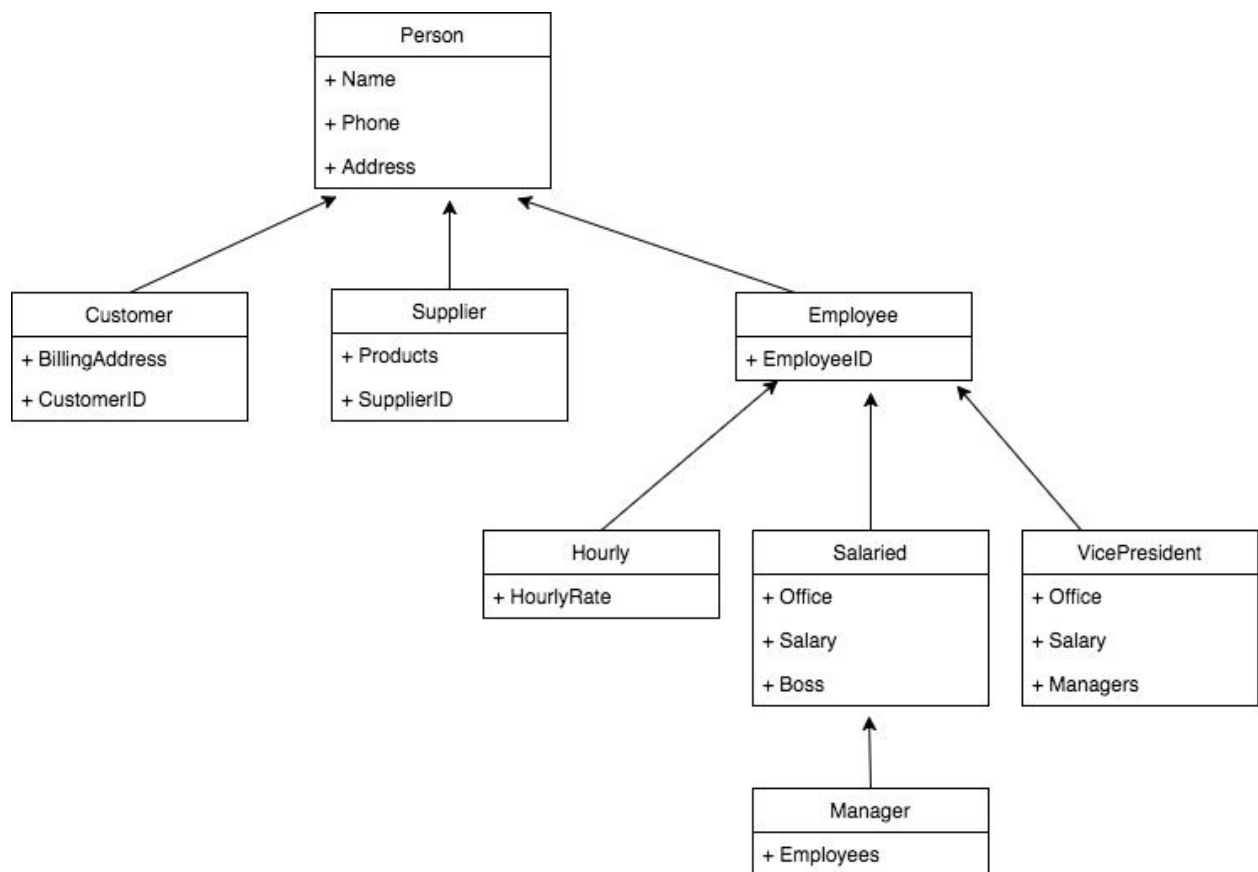
In ClassyDraw the Line, Rectangle, Ellipse, Star and Text classes would all share a set of common properties, such as; starting point, angle, border color, body color, and opacity.

However, these classes would also have unique properties. Line and Star both have an length property, with line also having a line size property. While Rectangle, Ellipse, and Text all share length and width properties with Text also possessing a message property. These overlapping properties can be represented with the parent classes Linear and Rectangular, with Linear storing the length for Line and Star, and Rectangular storing the Length and Width properties for Rectangle, Ellipse and Text.

7. Problem 6.2



8. Problem 6.3



9. Problem 6.6

You could combine Salaried, Manager, and VicePresident Classes into a Yearly class which stores office and salary. This class would additionally have optional properties for storing boss, employees, and managers.

