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Professor Johnson

CMSI 4072

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## Homework 2

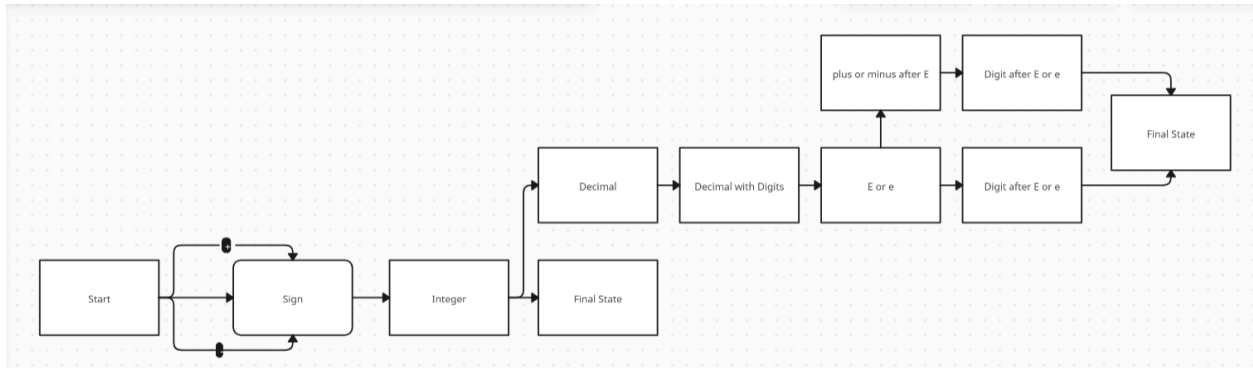
**5.1** The difference between a component based and a service oriented architecture is that a component based architecture has the goal of making each piece of a system work as separate as possible so different developers can work separately. Components are used to provide services to other components. In comparison, the service based architecture implements components as services meaning each service can run on its own and work for its clients as a separate functional piece of the entire puzzle while living up to certain standards.

**5.2** The architectures that are most appropriate for this type of application are the monolithic and the event driven architectures. Monolithic architectures run everything in a single program allowing everything to be connected together and a lack of communication across different networks, which is perfect because of our lack of external databases. Event driven architectures can also work because the game elements, such as the high score and the opponents moves, are all based on the players moves and events in a certain order of operations.

**5.4** The architectures that best suit this type of application are the client / server and the event driven architectures. The client / server architecture can allow for different layers to the program including a hypothetical UI layer, data layer, and game logic layer. The client / server architecture can also set up a client side and user side connection to allow for the game to be hosted online and to allow for two players to play with each other. Event driven architectures can allow for player interaction with the game itself and allow game rules and scripted events such as a score to be controlled and based upon each player's actions.

**5.6** The ClassyDraw application, since it is a monolithic and event driven architecture application with a file storing system, the best way to store files would be through a database built around local storage in files in a directory structure based around the users system. The maintenance that would be best for this program is to have the user install some sort of autosave or backup to protect files, and also use system built in compression to keep file size manageable.

## 5.8



## 6.1

- The ClassyDraw classes would hypothetically all share the properties of position, size, color, rotation, and moveable properties.
- The ClassyDraw classes would hypothetically not share the properties of fill color, rounded corners, point counter, text size, text font, and text color.
- Some ClassyDraw classes would hypothetically share properties such as the fill color shared by everything but line, and corner radius for rectangle and possibly star.
- The shared and non-shared properties should be implemented in a way that derives from a base class, such as a shape class, and then form smaller classes sharing its properties but with changes for each specific shape such as rectangle and star.

## 6.2

