SOLID Design Principles

**(10 points (5 points each))**: As a developer, I want to pinpoint at least two places where I used one of the SOLID design principles and discuss my reasoning, so that I can properly understand good code design. Minimum of two SOLID design principles must be used.

1. Single Responsibility Principle

This principle states that every function/method or class should do one thing only and do it well. This provides the building blocks that bigger applications are built off of and allows for easier extension of an application in the future.

While building Lemonade Stand I tried to adhere to this principle by having many small methods that only do one task. These are then called in slightly larger methods to create a sequence of events. An example of this is my DisplayBalance method, it’s only task is to displays the balance. It is called at the beginning and end of each day and after each purchase. If I had written it in a larger method doing multiple things I would not have been able to recall it so frequently and I would of had to write more code for each time I needed to display the balance. Using the single responsibility principle avoided having excess code all doing essentially the same thing.

1. Open/Closed Principle

The open/closed principle states that the functionality of code should be open to extension and closed to modification. This means that new functionality should be able to be added to existing code without having to rewrite and majorly change the existing code. This allows updates and improvement to be made on code without having to rewrite all of it in order to make it work.

I used this principle in Lemonade stand by creating an abstract parent class for all the ingredients needed to make lemonade (cups, lemons, sugar, ice). Using inheritance allowed me to set common member variables and methods that all my ingredients would need. It also means that more ingredients could be added in the future without having to rewrite the common methods and without changing the functionality of Lemonade Stand.