**Homework 3**

**5.1**

1. This pattern is used to increase the functionality of an object or enhance its behavior. This allows the ability to add functionality to an existing method, while also keeping the ability to use the existing ones.
2. This is used when the program is expecting a changed or event. This allows the program to do multiple task when this event is triggered. The observer class supplies method to attach observers that in turn have the ability to perform the mentioned tasks.
3. This is using the composite pattern since is taking a interface and then customizing it for the other classes as needed. The other key feature is that a single call of a particular method depending of the class of the implementation.

**5.2**

1. Decorator design pattern would be used here. There is common functionality that needs to be supplied by the programmer but at the same time some common functionalities can and should be used. This will keep an independence of other languages as well as common methods without changes available to use. Also keeps the main structure of the editor intact keeping expected data, methods and behaviors pristine which helps smooth runtime.