Open Close Principle

**Motivation**

A clever application design and the code writing part should take care of the frequent changes that are done during the development and the maintaining phase of an application. Usually, many changes are involved when a new functionality is added to an application. Those changes in the existing code should be minimized, since it's assumed that the existing code is already unit tested and changes in already written code might affect the existing functionality in an unwanted manner.

The Open Close Principle states that the design and writing of the code should be done in a way that new functionality should be added with minimum changes in the existing code. The design should be done in a way to allow the adding of new functionality as new classes, keeping as much as possible existing code unchanged.

**Intent**

Software entities like classes, modules and functions should be **open for extension but closed for modifications**.

Triangle

Circle

Graphic Editor

Shape

Square

GraphicEditorBadSample

支持Triangle,需要修改现有的代码

支持Triangle,只需要修改变化点（上层代码），对扩展开放，不需要修改下层代码，对修改关闭

Triangle

Circle

Graphic Editor

Shape

Square

GraphicEditorGoodSample