

## Abstract

Design pattern was invented because there are similar problems that often appeared in the software engineering. There are a lot of design patterns was invented by programmers in its development. Today, design pattern is clustered by three different purposes, there are creational, structural, and behavioral.

State pattern is one of behavioral pattern. State pattern was invented because programmers found states when they made software. This Pattern allows state transition logic to be incorporated into a state object rather than in a monolithic if or switch statement.

This final assignment will implement state pattern to finish a case that has several states. For evaluating state pattern, this final assignment will test and calculate object-oriented metrics from software of state pattern. Whereas to know the strength and weaknesses of state pattern, the result of object-oriented metrics state pattern's software will compare with non state pattern's software in same case study.

Based on object-oriented metrics, state pattern's software has higher complexity and higher effort in maintenance rather than non state pattern's software. However, state pattern's software has best way to keep states in software rather than non state pattern's software.

**Keywords:** design pattern, state pattern, and object-oriented metrics.