

Addis Ababa Institute of Technology

Center of Information Technology and Scientific Computing

Design Patterns

Bereket Yohannes – ETR/1839/09

Section 01

Software Engineering

4th Year

1. COR

Chain of responsibility pattern is used to achieve loose coupling in software design where a request from the client is passed to a chain of objects to process them.

Components Used:

Chain (Abstract Class)

Chain

Chain1

Chain2

Chain3

Chain4

Chain5

CORPatternDemo

Prints a message in Chains

1. Command

Command Pattern Encapsulate a request as an object, thereby letting you parameterize clients with different requests, queue or log requests, and support undo of operations

Components Used:

Command (Interface)

CommandDesignPattern

CloseSublimeText

EditSublimeText

OpenSublimeText

SaveSublimeText

SublimeText

Options

It basically runs the simulation of Opening, Editing, Saving and Closing of a file based on Command Design Pattern

1. Interpreter

Interpreter pattern is used to define a grammatical representation for a language and provides an interpreter to deal with this grammar.

Components Used:

Expression (Interface)

IntToFrenchExression

IntToSpanishExpression

InterpreterBPatternDemo

InterpreterContext

Uses Interpreter Design Pattern by printing greeting messages in French and Spanish.

1. Observer

Observer Pattern is one-to-many dependency between objects so that when one object changes state, all its dependents are notified and updated automatically.

Components Used:

Observer (Interface)

Subject (interface)

ObserverBPatternDemo

Topic

TopicSubscriber

Creates a Topic and send it all to Observers (Subscribers).

1. Strategy

Define a family of algorithms, encapsulate each one, and make them interchangeable.

Strategy lets the algorithm vary independently from clients that use it.

Components Used:

Sort (Interface)

BubbleSort

SelectionSort

ShellSort

StrategyPatternExample

This Project takes a list and sort it in 3 different sorting algorithms which are independent but follows an Interface’s structure.