

# CSCI4448 Project 3

Team member:  
Tianyi Ma

Language:  
Java

Environment:  
Atom IDE  
Java.utility.

Description:  
This is a project to simulate a hardware rental rent store that includes customers, tools, and option tools.

Assumptions:

1. Each customer would rent hardwares by orders (Paint 0 Paint 1 ..... Yardwork 0 Yardwork 1 Yardwork 2 Yardwork 3 ).
2. Each customer has 50% possibility to rent hardwares everyday.
3. The price of each tool per day: 15 dollar for paint tool, 25 dollar for Plumbing tool, 30 dollar for concrete tool, 60 dollar for yardwork, and 50 dollar for woodwork.
4. The price of each optional tool: 1 dollar for extension cord, 2 dollar for accessory kit, and 3 dollar for protective gear package.

References:

[https://en.wikipedia.org/wiki/Strategy\\_pattern](https://en.wikipedia.org/wiki/Strategy_pattern)  
<https://www.geeksforgeeks.org/oops-object-oriented-design/>  
<https://www.geeksforgeeks.org/inheritance-in-java/>

Patterns:

Strategy pattern on return tools and rent tools.  
Factory pattern for instantiating tools  
Decorator pattern for option tools.

UML:

