



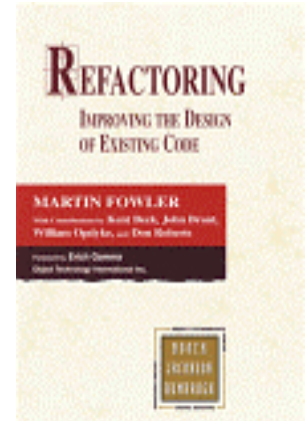
Refactoring: Improving the Design of Existing Code

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What We Will Cover

- **An example of refactoring**
 - Blow by blow example of changes
 - Steps for illustrated refactorings
- **Background of refactoring**
 - Where it came from
 - Tools
 - Why and When

Fowler, Refactoring: Improving the Design of Existing Code, Addison-Wesley, 1999



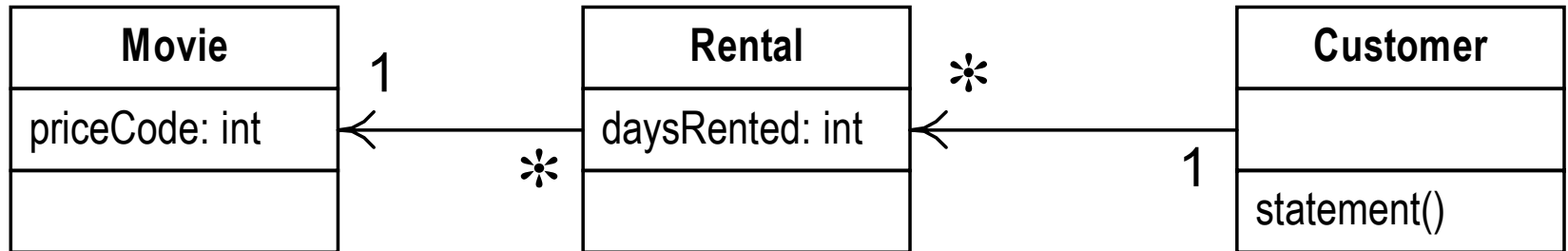
What Is Refactoring?

A series of *small* steps, each of which changes the program's internal structure without changing its external behavior

- Verify no change in external behavior by
 - Testing
 - Formal code analysis by tool
- ➡ In practice good tests are essential



Starting Class Diagram



Sample Output

```
Rental Record for Dinsdale Pirhana
Monty Python and the Holy Grail    3.5
Ran 2
Star Trek 27                        6
Star Wars 3.2                       3
Wallace and Gromit 6
Amount owed is 20.5
You earned 6 frequent renter points
```

