Assignment 3 Report

GitHub Repo Link - https://github.com/Fenil-Patelll/aesh/tree/refactoring_branch

Pull Request Link - https://github.com/aeshell/aesh/pull/343/files (Status: Raised but Not Accepted yet)

Set 1 Refactoring:

1) Refactoring Name: Extract Method

Description: The Selector Constructor were having multiple responsibilities and it was pretty hard to read what that constructor was doing, so For better Readability and Code Understanding I used the Extract Method for Refactoring the below code validateSelectorType and initializeDefaultValues methods were extracted from the constructor.

Location: org.aesh.selector.Selector

Method validateSelectorType(type) Created : Line 53

Method initializeDefaultValues(defaultValues) Created : Line 54

Link of files (Before Refactoring):

https://github.com/aeshell/aesh/blob/master/aesh/src/main/java/org/aesh/selector/Selector.java

Link of files (After Refactoring):
https://github.com/aeshell/aesh/blob/35d659ff0607253a4ede51f9b85e465ca826dfd7/aesh/src/main/java/org/aesh/selector/Selector.java

2) Refactoring Name: Renamed Method

Description: doSelect was renamed to performSelection, for better readability, also changed pass to password giving meaningful name!

Location: org.aesh.selector.Selector

Method performSelection(Shell shell) name changed from doSelect(Shell shell): Line 78

Method password(Shell shell) name changed from pass(Shell shell): Line 203

Link of files (Before Refactoring):
https://github.com/aeshell/aesh/blob/master/aesh/src/main/java/org/aesh/selector/Selector.java

https://github.com/aeshell/aesh/blob/master/aesh/src/main/java/org/aesh/command/impl/Executions.java

https://github.com/aeshell/aesh/blob/master/examples/src/main/java/examples/Example.java

Link of files (After Refactoring):
https://github.com/aeshell/aesh/blob/35d659ff0607253a4ede51f9b85e465ca826dfd7/aesh/src/main/java/org/aesh/selector/Selector.java

https://github.com/aeshell/aesh/blob/37e92c0028fb592d18e695f84dd569e19000be21/aesh/src/main/java/org/aesh/command/impl/Executions.java

https://github.com/aeshell/aesh/blob/37e92c0028fb592d18e695f84dd569e19000be21/examples/src/main/java/examples/Example.java

3) Refactoring Name: Decompose conditional Method

Description: select method was having Complicated conditional logic with their actions, make code harder to read and understand, So I Introduced new methods for conditional logic, as well as action block and gave them meaningful names, then replaced that conditional logic with, newly created method calls! printDefaultValues(), handleKeyPress(), isSelectionKey(), finalizeSelection(), isArrowUp(), isArrowDown(), moveFocusUp(), and moveFocusDown() methods used.

Location: org.aesh.selector.Selector

Methods (printDefaultValues(), handleKeyPress(), isSelectionKey(), finalizeSelection(), isArrowUp(), isArrowDown(), moveFocusUp(), and moveFocusDown()) are created and used in select(Shell shell) method : Line 107

Link of files (Before Refactoring):
https://github.com/aeshell/aesh/blob/master/aesh/src/main/java/org/aesh/selector/Selector.java

Link of files (After Refactoring):
https://github.com/aeshell/aesh/blob/35d659ff0607253a4ede51f9b85e465ca826dfd7/aesh/src/main/java/org/aesh/selector/Selector.java

Set 2 Refactoring:

1) Refactoring Name: Extract Class Method

Description: performed the "Extract Class" refactoring by moving the isZipFile and endsWithIgnoreCase methods into a separate ZipFileUtil static nested class. This refactoring improves the organization of the code by separating the utility methods from the core functionality of the ClassFileIterator class. The main class now only contains methods directly related to its primary purpose, which is to iterate over Java ClassFiles.

Location: org.aesh.io.scanner

Created a new Class ZipFileUtil : line 52

Used that class methods in next() method: Line 129

Link of files (Before Refactoring):

https://github.com/aeshell/aesh/blob/master/aesh/src/main/java/org/aesh/io/scanner/ClassFileIterator.java

Link of files (After Refactoring):
https://github.com/aeshell/aesh/blob/37e92c0028fb592d18e695f84dd569e19000be21/aesh/src/main/java/org/aesh/io/scanner/ClassFileIterator.java

2) Refactoring Name: Replace conditional with polymorphism Method

Description: In this technique, I have created an interface 'SignalHandler' with method 'handleSignal(). Then, we can create concrete classes for each signal, e.g. IntSignalHandler, implementing the handleSignal() method for their respective signal. Finally, in the accept() method, we can create an instance of the appropriate signal handler based on the signal argument and call the handleSignal() method on it.

Location: org.aesh.readline.Process

Interface SignalHandler Created : Line 66

Class IntSignalHandler implements SignalHandler : Line 70

IntSignalHandler methods are used in accept(Signal signal) method : Line 95

Link of files (Before Refactoring):

https://github.com/aeshell/aesh/blob/master/aesh/src/main/java/org/aesh/readline/Process.java

Link of files (After Refactoring):
https://github.com/aeshell/aesh/blob/37e92c0028fb592d18e695f84dd569e19000be21/aesh/src/main/java/org/aesh/readline/Process.java

3) Refactoring Name: Pull-up variable/method

Description: this technique involves moving a method from a subclass to its superclass(Interface) , allowing all subclasses(Interfaces) to inherit the method. In this case, we can pull up the implementation of the onSuccess() and onFailure(CommandResult result) methods from the NullResultHandler classes to the ResultHandler interface itself. this way we have removed code duplication and made code more maintainable.

Location: org.aesh.command.result

ResultHandler Inerfaces all method declaration made default: Line 29

Location: org.aesh.command.impl.result

Removed all method declaration in NullResultHandler : Line 32

Location: org.aesh.command

Removed method declaration of onSucess() method in CommandResultHandler class : Line 206

Link of files (Before Refactoring):

https://github.com/aeshell/aesh/blob/master/aesh/src/main/java/org/aesh/command/result/ResultHandler.java

https://github.com/aeshell/aesh/blob/master/aesh/src/main/java/org/aesh/command/impl/result/NullResultHandler.java

https://github.com/aeshell/aesh/blob/master/aesh/src/test/java/org/aesh/command/AeshScriptTest.java

Link of files (After Refactoring):
https://github.com/aeshell/aesh/blob/37e92c0028fb592d18e695f84dd569e19000be21/aesh/src/main/java/org/aesh/command/result/ResultHandler.java

https://github.com/aeshell/aesh/blob/37e92c0028fb592d18e695f84dd569e19000be21/aesh/src/main/java/org/aesh/command/impl/result/NullResultHandler.java

https://github.com/aeshell/aesh/blob/37e92c0028fb592d18e695f84dd569e19000be21/aesh/src/test/java/org/aesh/command/AeshScriptTest.java

Note:

Code has compiled and passed all test successfully after the Refactor.

```
[INFO] Æsh All ........................................ SUCCESS [  0.691 s]
[INFO] Æsh ............................................ SUCCESS [ 17.377 s]
[INFO] Æsh Examples ................................... SUCCESS [  0.069 s]
[INFO] ------------------------------------------------------------------------
[INFO] BUILD SUCCESS
[INFO] ------------------------------------------------------------------------
[INFO] Total time:  18.247 s
[INFO] Finished at: 2023-04-06T18:36:51-03:00
[INFO] ------------------------------------------------------------------------
```

```
Results :

Tests run: 195, Failures: 0, Errors: 0, Skipped: 0
```