Concordia University
Engineering and Computer Science

SOEN 6441: Advanced Programming Practices

Winter 2019

Project – Risk Game

(Build 3)

Refactoring Document

Submitted By:
Team 30

Submitted To:
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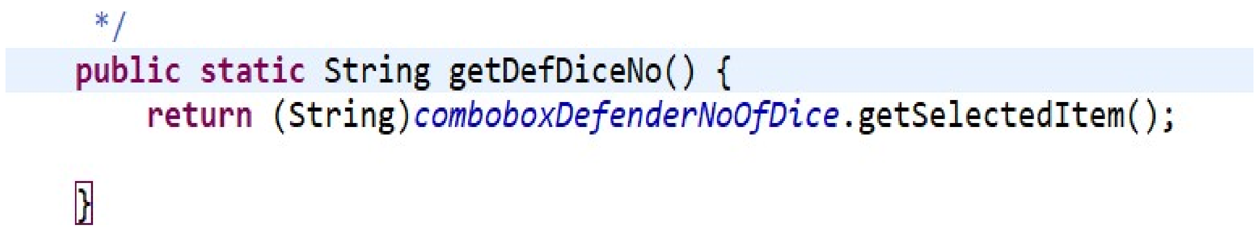
Refactoring

Refactoring is the practice for restructuring the existing code or altering the internal structure without changing the external behaviour which improves the code quality.

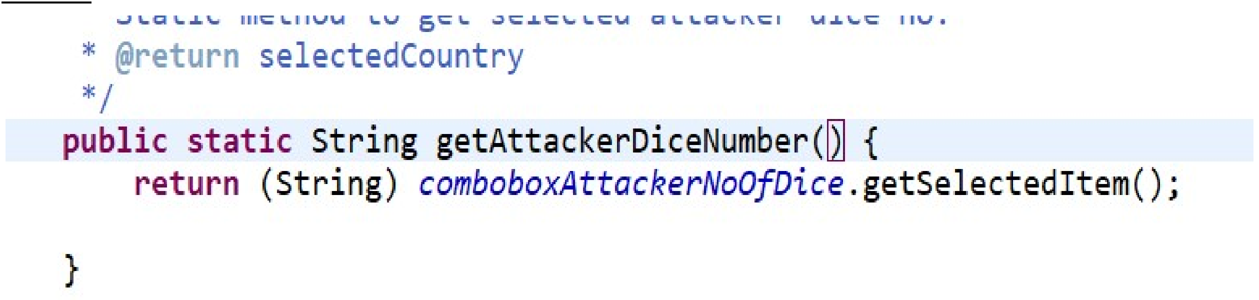
1. **Refactoring Type**: **Rename method Name**
   Refactoring Target: Understandability
   Refactoring Class: BoardView.java
   Description: Change the function name from getDefDiceno() to getDefDicenumber() to get the dice numbers of defender country.
   <u>**Build2**</u>



```
  */
 public static String getDefDiceNo() {
     return (String)comboboxDefenderNoOfDice.getSelectedItem();

 }
```

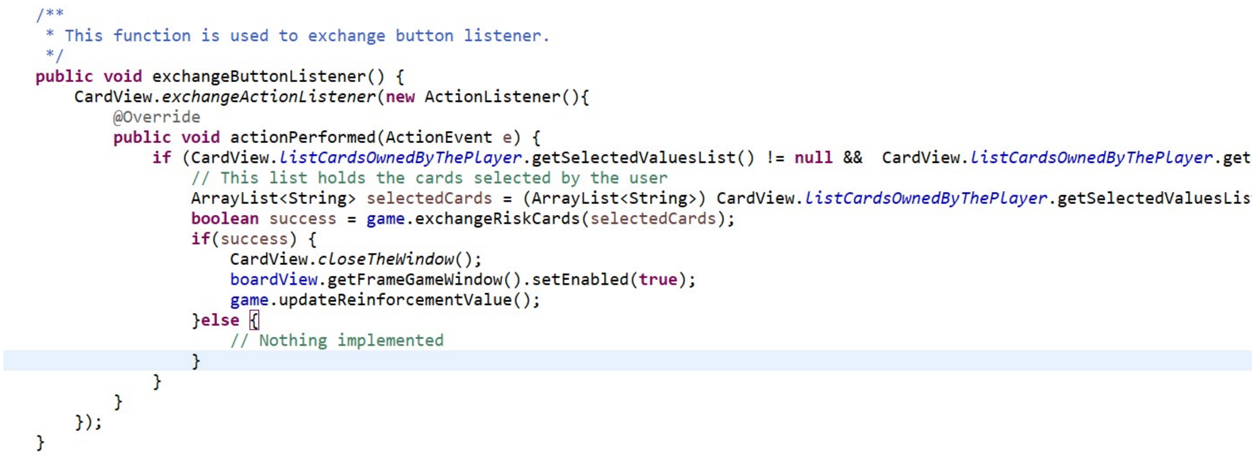
   <u>**Build3**</u>



```
   Static method to get selected attacker dice no.
 * @return selectedCountry
 */
public static String getAttackerDiceNumber() {
    return (String) comboboxAttackerNoOfDice.getSelectedItem();

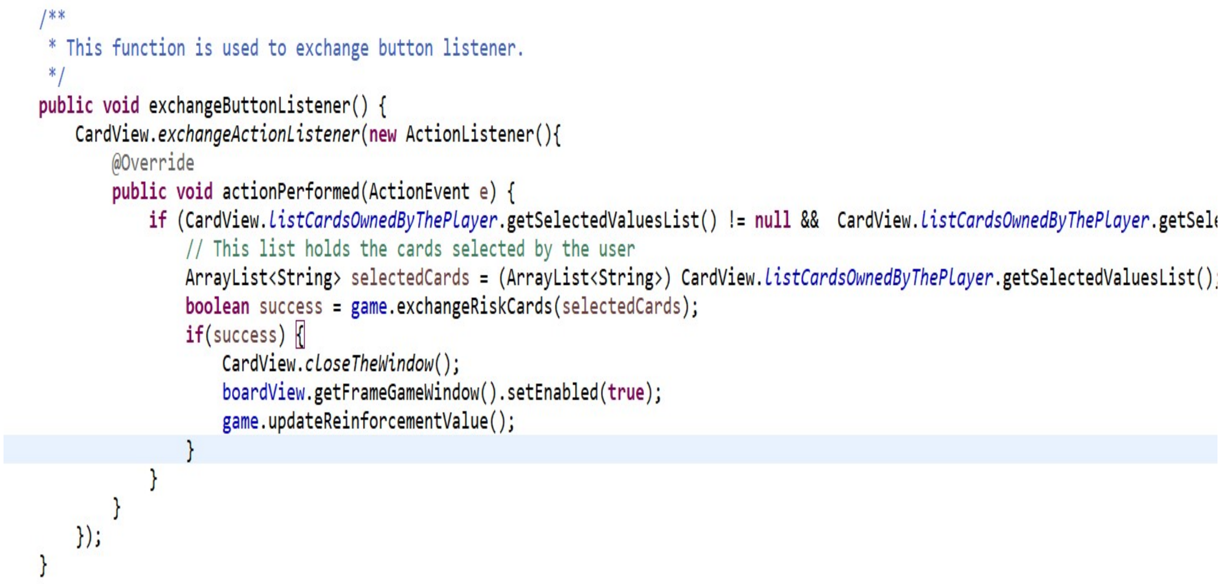
}
```

2. **Refactoring Type**: **Restructure Conditional Statement**
Refactoring Target: Readability
Refactoring Class: GameController..java
Description: Change the Conditional statement and remove if condition.
<u>Build2</u>



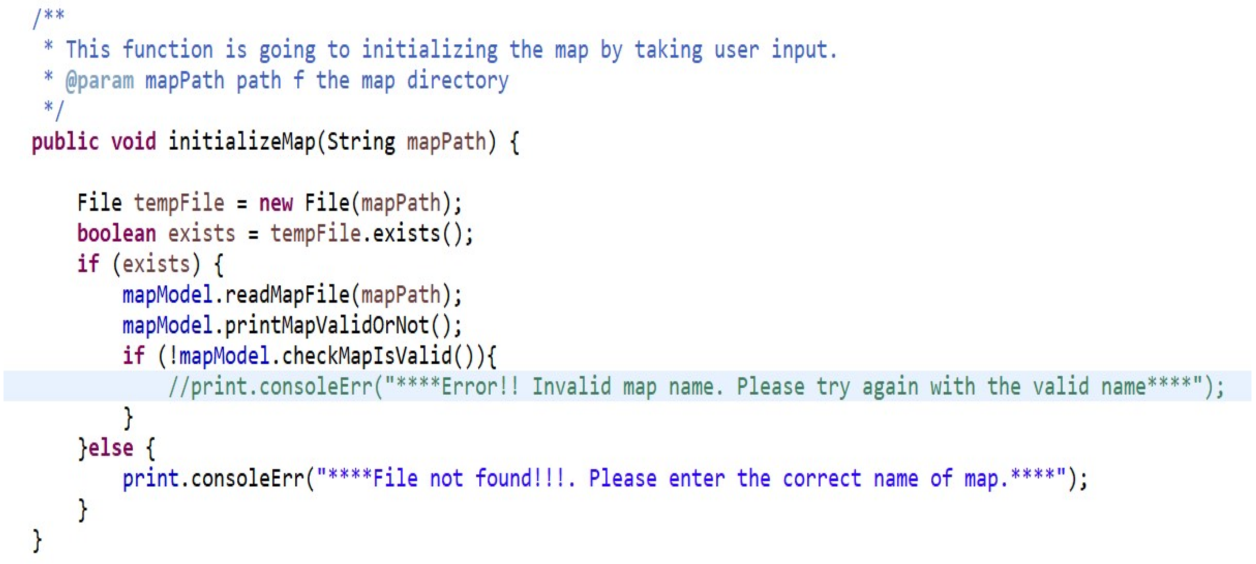
```
/**
 * This function is used to exchange button listener.
 */
public void exchangeButtonListener() {
    CardView.exchangeActionListener(new ActionListener(){
        @Override
        public void actionPerformed(ActionEvent e) {
            if (CardView.listCardsOwnedByThePlayer.getSelectedValuesList() != null &&  CardView.listCardsOwnedByThePlayer.get
                // This list holds the cards selected by the user
                ArrayList<String> selectedCards = (ArrayList<String>) CardView.listCardsOwnedByThePlayer.getSelectedValuesLis
                boolean success = game.exchangeRiskCards(selectedCards);
                if(success) {
                    CardView.closeTheWindow();
                    boardView.getFrameGameWindow().setEnabled(true);
                    game.updateReinforcementValue();
                }else {
                    // Nothing implemented
                }
            }
        }
    });
}
```

<u>Build3</u>



```
/**
 * This function is used to exchange button listener.
 */
public void exchangeButtonListener() {
    CardView.exchangeActionListener(new ActionListener(){
        @Override
        public void actionPerformed(ActionEvent e) {
            if (CardView.listCardsOwnedByThePlayer.getSelectedValuesList() != null &&  CardView.listCardsOwnedByThePlayer.getSel
                // This list holds the cards selected by the user
                ArrayList<String> selectedCards = (ArrayList<String>) CardView.listCardsOwnedByThePlayer.getSelectedValuesList();
                boolean success = game.exchangeRiskCards(selectedCards);
                if(success) {
                    CardView.closeTheWindow();
                    boardView.getFrameGameWindow().setEnabled(true);
                    game.updateReinforcementValue();
                }
            }
        }
    });
}
```

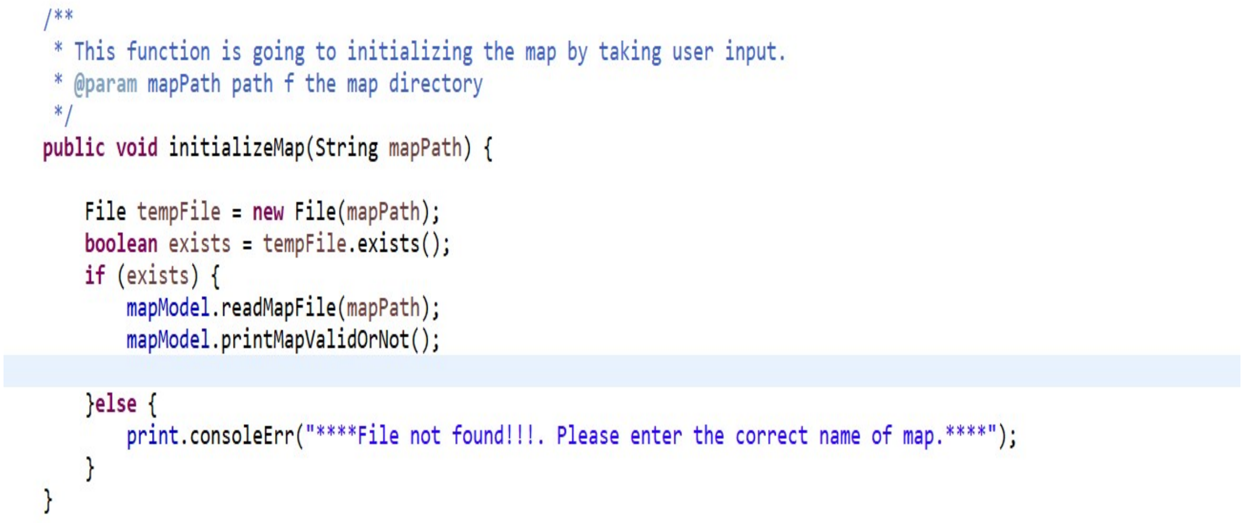
3. **Refactoring Type**: **Restructure Conditional Statement**
Refactoring Target: Readability
Refactoring Class: GameController..java
Description: Remove unimplemented if condition to improve readibility..
Build2



```
/**
 * This function is going to initializing the map by taking user input.
 * @param mapPath path f the map directory
 */
public void initializeMap(String mapPath) {

    File tempFile = new File(mapPath);
    boolean exists = tempFile.exists();
    if (exists) {
        mapModel.readMapFile(mapPath);
        mapModel.printMapValidOrNot();
        if (!mapModel.checkMapIsValid()){
            //print.consoleErr("****Error!! Invalid map name. Please try again with the valid name****");
        }
    }else {
        print.consoleErr("****File not found!!!. Please enter the correct name of map.****");
    }
}
```

Build3



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/**
 * This function is going to initializing the map by taking user input.
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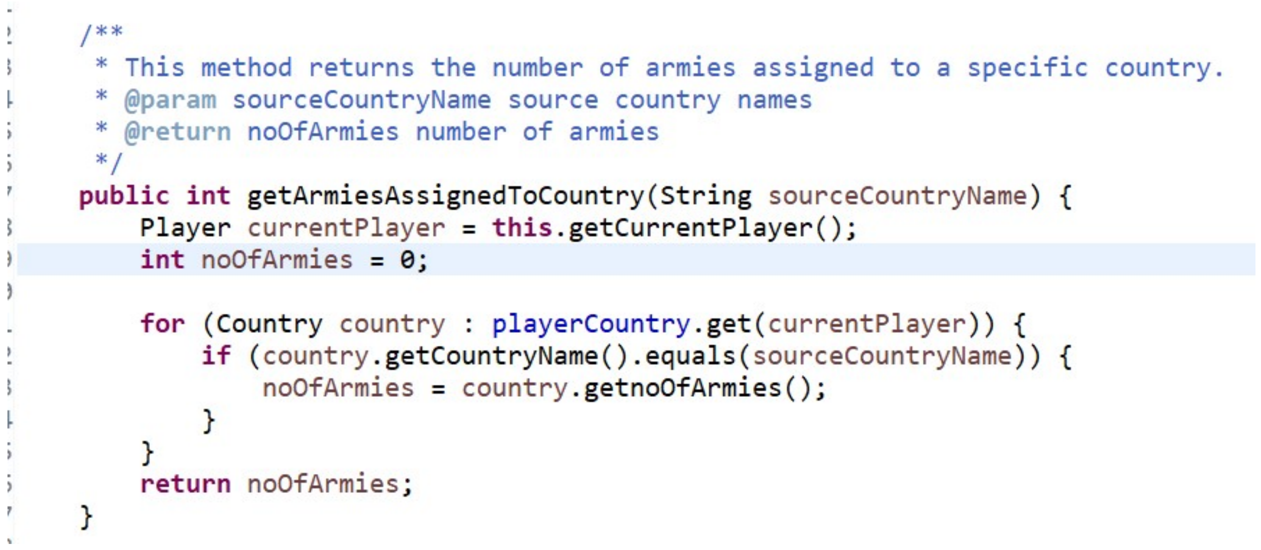
 */
public void initializeMap(String mapPath) {

    File tempFile = new File(mapPath);
    boolean exists = tempFile.exists();
    if (exists) {
        mapModel.readMapFile(mapPath);
        mapModel.printMapValidOrNot();

    }else {
        print.consoleErr("****File not found!!!. Please enter the correct name of map.****");
    }
}
```

4. **Refactoring Type**: **Rename variable name**
Refactoring Target: Understandability
Refactoring Class: Game.java
Description: Rename the variable name from noOfArmies() to numberfArmies() to count the number for armies needed in the Build3 requirements.

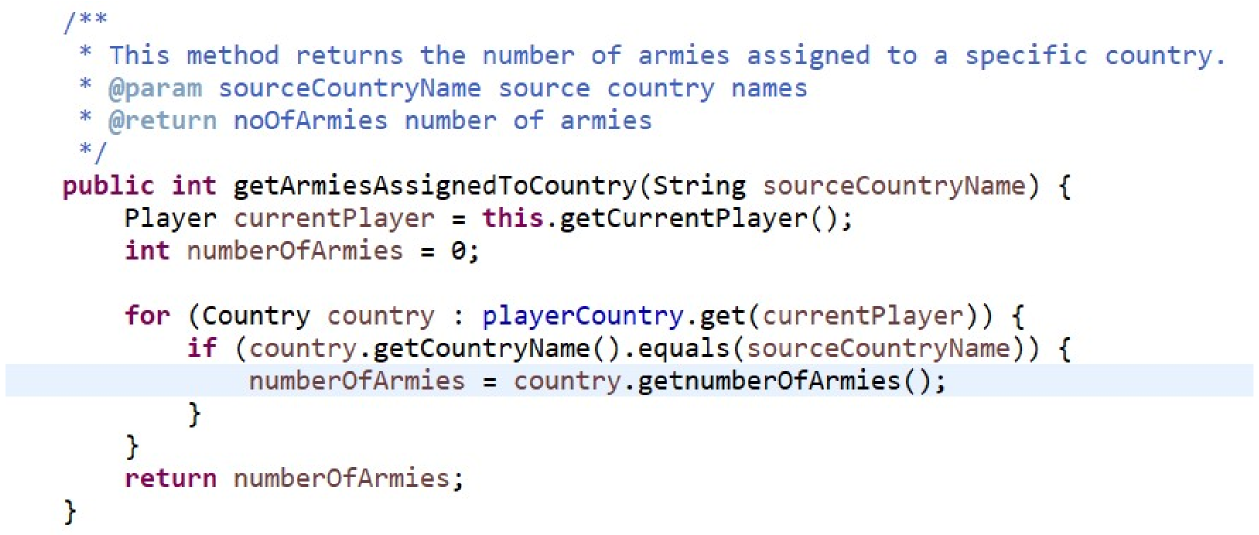
Build2



```
    /**
     * This method returns the number of armies assigned to a specific country.
     * @param sourceCountryName source country names
     * @return noOfArmies number of armies
     */
    public int getArmiesAssignedToCountry(String sourceCountryName) {
        Player currentPlayer = this.getCurrentPlayer();
        int noOfArmies = 0;

        for (Country country : playerCountry.get(currentPlayer)) {
            if (country.getCountryName().equals(sourceCountryName)) {
                noOfArmies = country.getnoOfArmies();
            }
        }
        return noOfArmies;
    }
```

Build3



```
    /**
     * This method returns the number of armies assigned to a specific country.
     * @param sourceCountryName source country names
     * @return noOfArmies number of armies
     */
    public int getArmiesAssignedToCountry(String sourceCountryName) {
        Player currentPlayer = this.getCurrentPlayer();
        int numberOfArmies = 0;

        for (Country country : playerCountry.get(currentPlayer)) {
            if (country.getCountryName().equals(sourceCountryName)) {
                numberOfArmies = country.getnumberOfArmies();
            }
        }
        return numberOfArmies;
    }
```