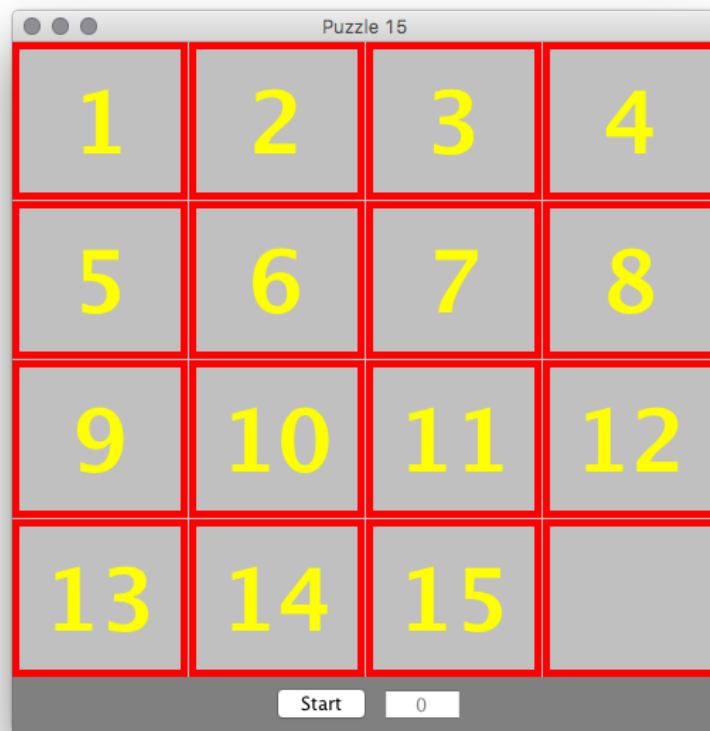


Project #2



For our second course project you have to write the famous [15-puzzle](#) game. You have to create two versions of it. One should be a console version, another should be a graphical version. For the graphical version of the game you should utilize the Java Swing framework. Both games should reuse one common class representing the game itself. The class should not know anything on how the game is presented to the user. It should only concern itself with the game state and its behavior.

Grading

4 Points

Create the class representing the state and behavior of the game. Use the class to create the console versions of the game. The interface and controlling logic must go into a separate class or classes. At the beginning of the game, ask the user to enter the number of iterations to shuffle tiles. The user should be able to move the tiles by typing a command in the prompt. The program should print the game field after processing the command. Print a message congratulating the user if he was able to order all the tiles from 1 to 15.

```
toksaitov — toksaitov@AUCA: ~/project — ssh auca — bash — 80x20
toksaitov@AUCA:~/project$ java ConsoleVersion
Number of moves for shuffle? 1000
11 8 9 6
10 5 12 3
2 1 4 15
14 7 13

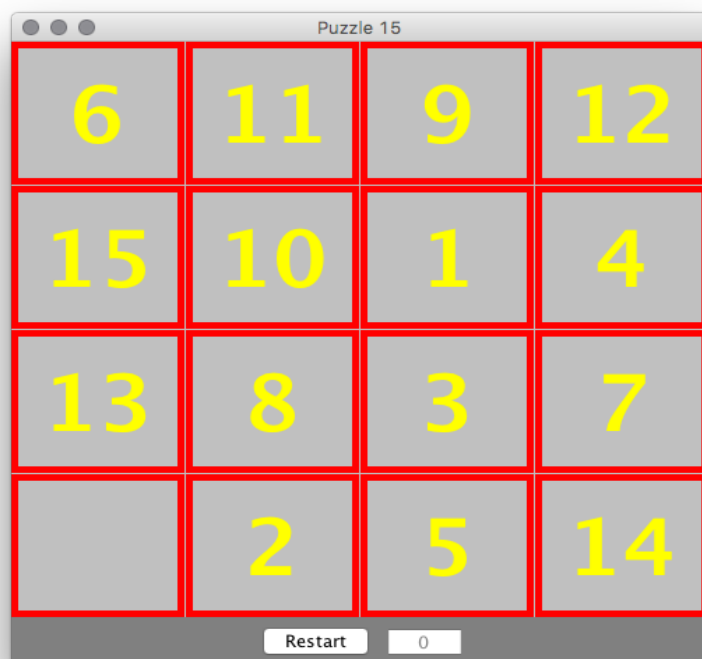
Your move (W, D, S, A): D
11 8 9 6
10 5 12 3
2 1 4 15
14 7 13

Your move (W, D, S, A): A
11 8 9 6
10 5 12 3
2 1 4 15
14 7 13

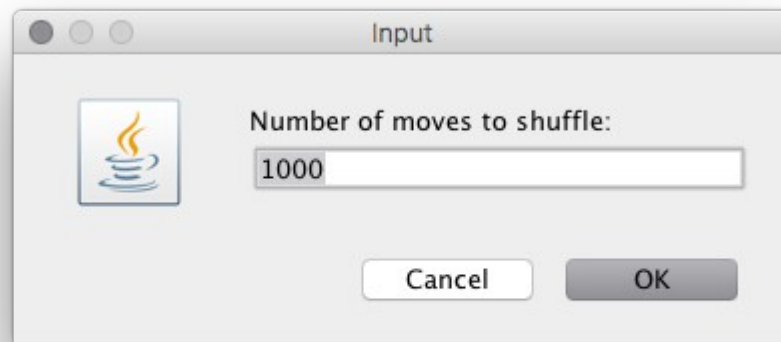
Your move (W, D, S, A):
```

+3 Points

Create the version of the game with a graphical user interface. Reuse the class from the previous step. Allow the player to control tiles with the keyboard. It is up to you what kind of keys to use for control.



At the beginning of the game, ask the user to enter the number of iterations to shuffle tiles. You can use an input dialog from Swing for that. Check for incorrect input, notify the user on error, ask again to enter a correct number.

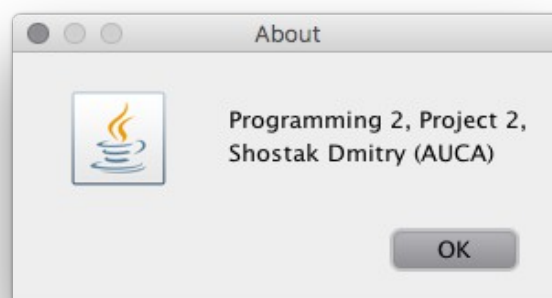


Keeps statistics such as the number of moves performed by the user. Present it as a text label inside of the game window.

Congratulate the user if he was able to order all the tiles from 1 to 15. You can use a message dialog from Swing for that.



Show a general copyright and version information if the user presses the F1 key. You can also use the message dialog for that.



+3 Points

Allow the player to control the game by using the mouse.

Bonus Points

To get extra points to your grade, you can try adding animation for tile transitions.