Assignment 1

02160 – Agile Object-oriented Software Development

February 1, 2022

Instructions

This exercise has to be completed and submit it the day before the next lecture (deadline is 08-02-2022 08:00). To deliver the exercise, upload **only** the `.java` file containing your solution in DTU Learn.

It is possible to work in pairs but, in this case, it is necessary to clearly state that. Additionally, during the next session, you might be asked to explain your solution. In case you are not able to properly explain the solution and answer related questions, the whole exercise will be considered as failed.

Exercise

Design a simple program to play a simplified version of checker[1]. Specifically, the program has to print the board and then alternatively ask the correct player to insert the old and the new coordinates of the piece to move. The system has to check whether the coordinates refer indeed to a player's owned piece and that the new position fulfills the requirements (i.e., diagonal forward move in an empty cell). The program has to continue until the user terminates it. It is not mandatory to implement jumps (or multiple jumps) and piece crowning.

An example of "gameplay" is (in blue the input provided by the user):

```
   0 1 2 3 4 5 6 7   <- X axis
  +-----------------+
0 |  1   1   1   1  |
1 |1   1   1   1    |
2 |  1   1   1   1  |
3 |                 |
4 |                 |
5 |2   2   2   2    |
6 |  2   2   2   2  |
7 |2   2   2   2    |
  +-----------------+
   0 1 2 3 4 5 6 7

Turn of player no. 1
Coordinate of piece to move
  Enter X: 1
  Enter Y: 2
```

[1] See https://en.wikipedia.org/wiki/English_draughts.

```
Coordinate of new position
  Enter X: 0
  Enter Y: 3
Piece moved!

   0 1 2 3 4 5 6 7   <- X axis
  +-----------------+
0 |  1   1   1   1 |
1 |1   1   1   1   |
2 |      1   1   1 |
3 |1               |
4 |                |
5 |2   2   2   2   |
6 |  2   2   2   2 |
7 |2   2   2   2   |
  +-----------------+
   0 1 2 3 4 5 6 7

Turn of player no. 2
Coordinate of piece to move
  Enter X: 0
  Enter Y: 5

Coordinate of new position
  Enter X: 1
  Enter Y: 4
Piece moved!

   0 1 2 3 4 5 6 7   <- X axis
  +-----------------+
0 |  1   1   1   1 |
1 |1   1   1   1   |
2 |      1   1   1 |
3 |1               |
4 |  2             |
5 |    2   2   2   |
6 |  2   2   2   2 |
7 |2   2   2   2   |
  +-----------------+
   0 1 2 3 4 5 6 7

Turn of player no. 1
Coordinate of piece to move
  Enter X: 2
  Enter Y: 1

Coordinate of new position
```

```
  Enter X: 1
  Enter Y: 2
Piece moved!

   0 1 2 3 4 5 6 7   <- X axis
  +----------------+
0 |  1   1   1   1 |
1 |1       1   1   |
2 |  1   1   1   1 |
3 |1               |
4 |  2             |
5 |    2   2   2   |
6 |  2   2   2   2 |
7 |2   2   2   2   |
  +----------------+
   0 1 2 3 4 5 6 7

Turn of player no. 2
Coordinate of piece to move
  Enter X:
```