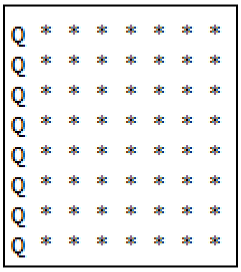
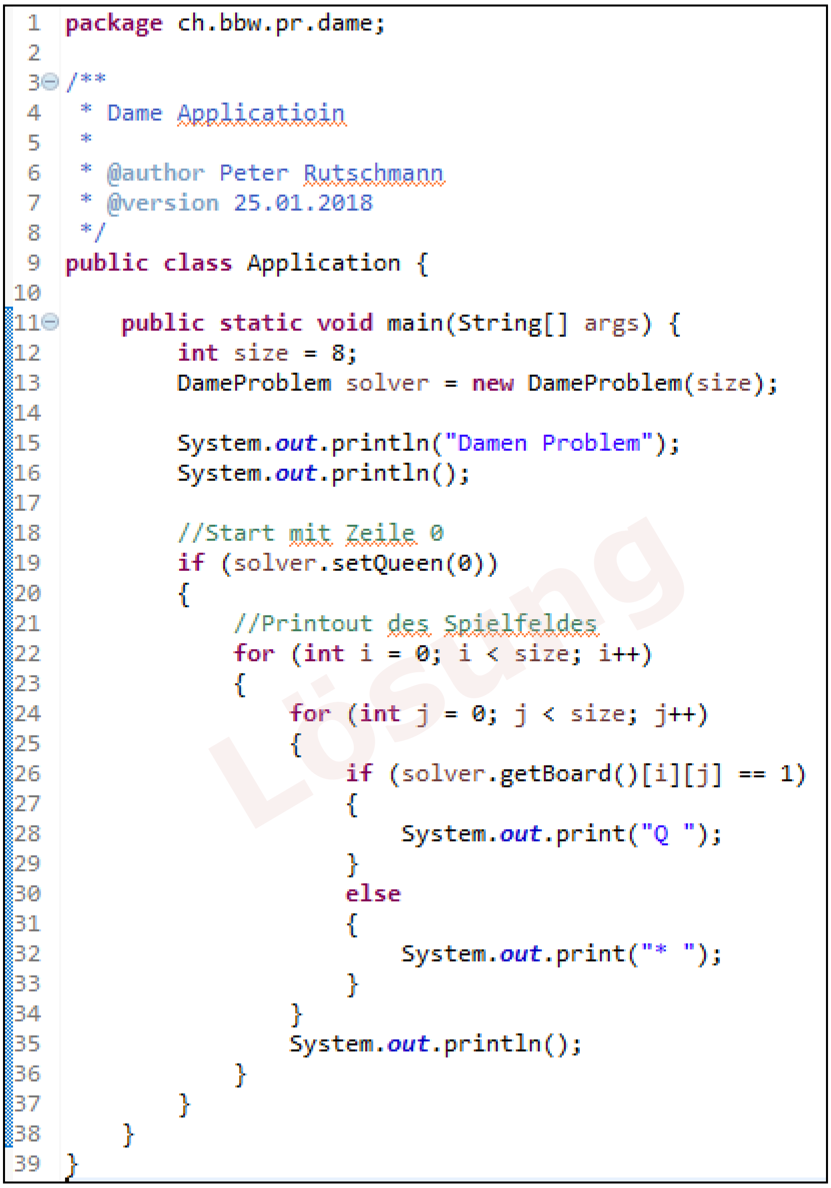
Damen-Problem

Lösung bis Schritt 2



```
Q * * * * * * * 
Q * * * * * * * 
Q * * * * * * * 
Q * * * * * * * 
Q * * * * * * * 
Q * * * * * * * 
Q * * * * * * * 
Q * * * * * * * 
```



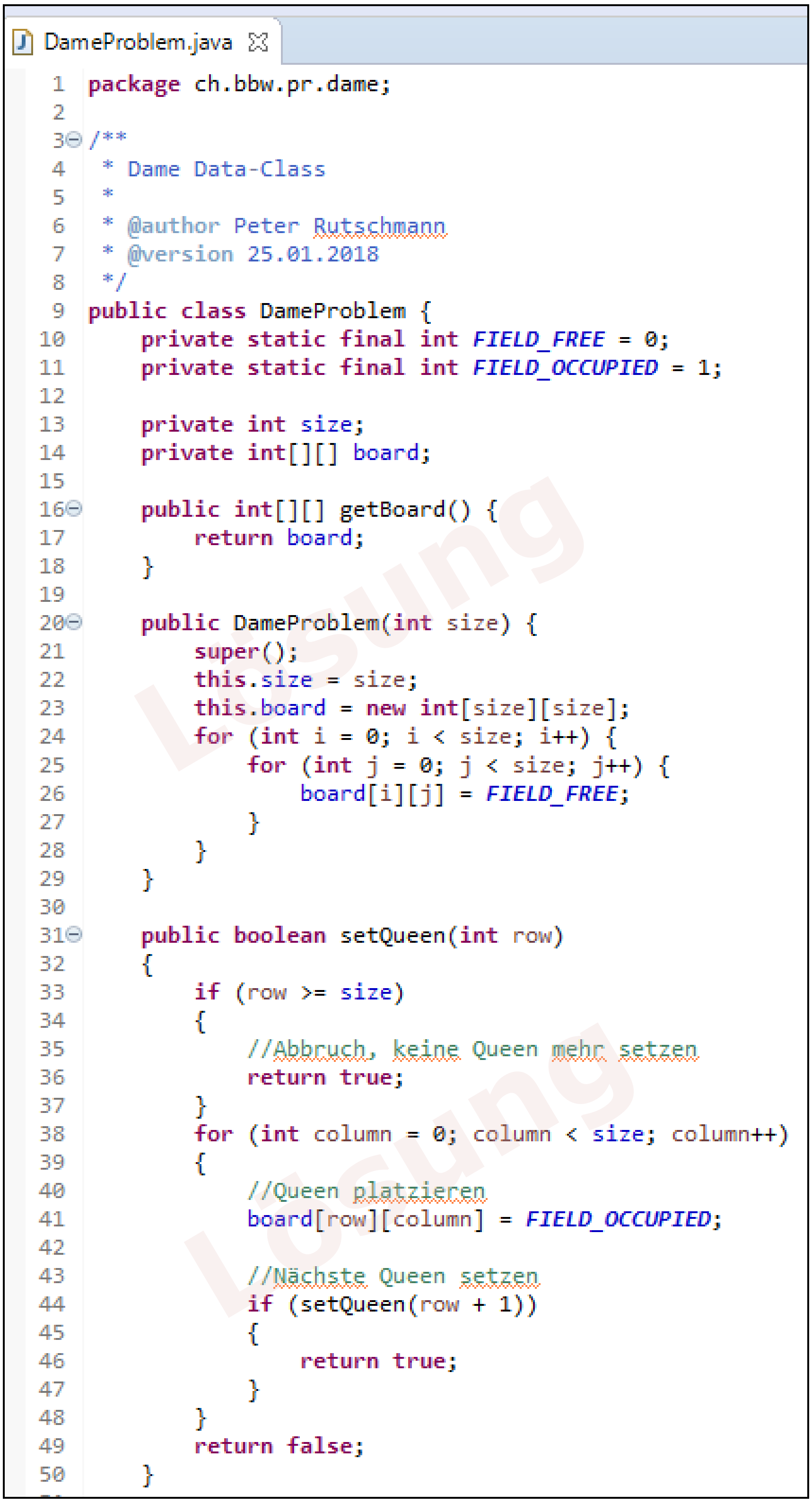
```java
package ch.bbw.pr.dame;

/**
 * Dame Applicatioin
 *
 * @author Peter Rutschmann
 * @version 25.01.2018
 */
public class Application {

    public static void main(String[] args) {
        int size = 8;
        DameProblem solver = new DameProblem(size);

        System.out.println("Damen Problem");
        System.out.println();

        //Start mit Zeile 0
        if (solver.setQueen(0))
        {
            //Printout des Spielfeldes
            for (int i = 0; i < size; i++)
            {
                for (int j = 0; j < size; j++)
                {
                    if (solver.getBoard()[i][j] == 1)
                    {
                        System.out.print("Q ");
                    }
                    else
                    {
                        System.out.print("* ");
                    }
                }
                System.out.println();
            }
        }
    }
}
```



```java
package ch.bbw.pr.dame;

/**
 * Dame Data-Class
 *
 * @author Peter Rutschmann
 * @version 25.01.2018
 */
public class DameProblem {
    private static final int FIELD_FREE = 0;
    private static final int FIELD_OCCUPIED = 1;

    private int size;
    private int[][] board;

    public int[][] getBoard() {
        return board;
    }

    public DameProblem(int size) {
        super();
        this.size = size;
        this.board = new int[size][size];
        for (int i = 0; i < size; i++) {
            for (int j = 0; j < size; j++) {
                board[i][j] = FIELD_FREE;
            }
        }
    }

    public boolean setQueen(int row)
    {
        if (row >= size)
        {
            //Abbruch, keine Queen mehr setzen
            return true;
        }
        for (int column = 0; column < size; column++)
        {
            //Queen platzieren
            board[row][column] = FIELD_OCCUPIED;

            //Nächste Queen setzen
            if (setQueen(row + 1))
            {
                return true;
            }
        }
        return false;
    }
```