

Homework 14 - Functional Programming

* If there is any problem, please contact TA.

Name:----- Student ID:----- Email: -----

Please include your code file and a screenshot of execution result for each program problem in your submit.

(You can use SWI-Prolog or online coding website.)

Problem 1. Eight queens problem. The Eight queens puzzle is the problem of placing eight chess queens on an 8x8 chessboard so that no two queens threaten each other. Thus, a solution requires that no two queens share the same row, column, or diagonal. Represent the positions of the queens as a list of numbers 1..N. Example: [4,2,7,3,6,8,5,1] means that the queen in the first column is in row 4, the queen in the second column is in row 2, etc..

```
> queens(8, Qs)
Qs = [1, 5, 8, 6, 3, 7, 2, 4]
Qs = [1, 6, 8, 3, 7, 4, 2, 5]
...
```

(a) Implement in Prolog

Remark: You just need to send your .pdf file to likaijian@sjtu.edu.cn. Email Subject line Format(also the pdf file name): **HW_X_Name_StudentID**