

# PROLOGUE

## FOR ALL ASSIGNMENTS

- Attach a *prologue* for all assignments.
- Use sample *prologue* sheet in the course material, customize it for every assignment.
- *Prologue* makes it easy to separate assignments for grading purpose.

# **EXERCISE 7**

## **AFTER CHAPTER – 23**

### **PROBLEM**

- Place 8 queens on an 8 x 8 chess board so that none of the queens attack each other. User is prompted to place the first row queen in any of the eight columns. Your program should be able to place rest of the seven queens without attacking each other.
- User is prompted to place first queen in row 0 in one of the columns (0-7) or quit. Your program places rest seven queens so that they do not attack each other continue to prompt the user to place queen 0 in a proper column if the user gives an incorrect column. Print the solution with the queen in row/column position. There are about 8 unique solutions. You need to show eight solutions showing the first queen in each of the eight columns on the first row.
- User is prompted and places the first queen in the order of following columns: 4, 2, 9, 6, 3, 0, 5, 1, and 7. Do not use an array to place the queen, prompt the user
- Print 8 board positions with the first queen in the given position as above. Write all the output to a file.

### **DELIVERABLES**

Submit the source code, input and the output. Student is expected to submit eight outputs of placing the first queen in the given order by the user. You can print asterisks in the empty cells and 'Q' in the cell where queen is placed. The first queen position can be shown by placing a 'U' to designate the user position of the queen.

### **DUE DATES**

Assignments are due on the following week after completing the chapter 23 Backtracking discussion.