CS136: Computer Science II – Fall 2019

Homework	Points	Announced	Due
#8	30[1]	Oct-28	Nov-1

Introduction

The purpose of this homework is to practice algorithmic design.

General Guidelines

Read the following guidelines carefully before working on this assignment.

1. This is an *individual* homework assignment. You may discuss ideas, ask questions or explain things to your colleagues. Nevertheless, you should solve the problem(s) independently.
2. You should submit your *own work*. Material brought from elsewhere (e.g. the Internet[2], a classmate, submission at a previous offering…) is not acceptable.
3. A program with syntax errors (aka compilation errors) will receive *zero* points.

Submission Instructions

1. Submissions via email will not be accepted. The homework should be submitted via BBLearn by the due date.
2. For question 1, submit Java files (i.e. with .java extension) with the names specified in the problem description. Other file types (e.g. .class, .zip, .jar, .doc, .pdf…) are not acceptable and will receive *zero* points.
3. Make sure that your code compiles and runs without errors when the supplied compilation and execution commands are used.
4. When you use an IDE (e.g., NetBeans, Eclipse…) for writing Java programs, the IDE will automatically use packages and add package statements to your code files. Java files with the package statement will compile but will not run when the below commands are used. So, make sure to remove the package statements from the code you are submitting.
5. Your code must have Javadoc-style comments for all classes, methods, and fields that you write.
6. Make sure that your code compiles without errors when the following command is used:

```
javac StallsApp.java
```

7. Make sure that your code runs without errors when the following command is used:

```
java StallsApp
```

[1] The homework will be graded out of 30 points, but it is worth 3% (i.e. 3 points) of the overall course score.
[2] Unless explicitly asked to do so.

Penalties	
Item	**Points Deducted**
The program doesn't compile using the supplied command(s)	All
The program doesn't run using the supplied command(s)	All
Improper file format	All

[30 points] Question #1

It is a well-researched fact that men in a restroom generally prefer to go to the middle of the longest sequence of unoccupied stalls. For example, consider the situation when ten stalls are empty.

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The first visitor will occupy the middle position.

- - - - - X - - - -

The next visitor will be in the middle of the empty area at the left.

- - X - - X - - - -

Write a program that reads the number of stalls in a restroom and then prints out diagrams in the format given above when the stalls become filled, one at a time. Hint: use an array of Boolean values to indicate whether a stall is occupied.

Grading Rubric	
Item	**Points**
Initializing the array representing empty stalls	4
Finding the next empty stall place	20
Proper print out	6
Missing JavaDoc comment (per occurrence)	-1

With best wishes
Dr. Mohamed Elwakil