***Title      Homework 1: Elevator Simulation***

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***Overview***

**Purpose**

*Purpose of this project is to create an elevator system that simulates real world system to help an elevator company as a preliminary step toward developing the system that will actually control real elevator.*

**Brief description**

**The Real World System**A building, a certain number of stories tall, is equipped with an elevator system comprised of a certain number of elevators. Passengers arrive in the building at random times with a certain probability of an arrival per second. Passengers on the lowest floor may only request up service.

On entering an elevator a passenger selects a destination floor. The elevator then closes its doors and moves to that destination floor, possibly stopping on intermediate floors to deliver other passengers who may have selected intermediate floors. When an elevator arrives at a destination floor it stops, opens its doors, and discharges any passengers who have selected that floor.

**Goals**

1. Create class Elevator. Implement it with instance variable.
2. Create a constructor of the class which takes no arguments and sets the initial state of the elevator
3. Create a move method. This will be responsible for moving the elevator up in the building
4. Create stop method to stop the elevator at current floor to drop the destined passengers and print elevator’s current state.
5. Crete toString overridden method to print the state of the elevator.
6. Create a boardPassenger method to bard the passengers on the elevator at the 1st floor.
7. Implement the main method to run the program.

**See Also**

<http://courses.dce.harvard.edu/~cscie160/hw1-05.htm>

**Assumptions**

*1) Max capacity of Elevator is 10 passengers but Exception handling is not implemented in this version, so even overloading the elevator will not throw any error in the programm.*

*2) Total no of floors in the building are 7. No Underground floors (Floors range between 1 to 7 inclusive).*

*3) Elevator boards passenger only once and only from 1st floor. No passengers can be boarded from any other floors.*

*4) Elevator only drops the passengers on its way UP and once reaching top floor comes straight DOWN to 1st floor.*

**Risks**

*As per the Homework Excersise last point, for Javadoc only Elevator.html page is tobe submitted, so many links of this page will not be working.*

**Current procedure/functionality**

*1) Executing the main method will borad 7 passengers bu calling boardPassengers method. Ex (2,2,3)*

*(1-a) - boardPassenger will create an array such that each index of the array will denote the floor of the building and value of that index will denote total no of passengers destined for that floor.*

*2) Next step, move method will be called. main functionality of elevator is handled by move method.*

*(2-a) - It will make the elevator move all the way to the top floor.*

*(2-b) - If any passengers for any currentFloor, Elevator will stop by calling stop method.*

*(2-c) - Stop method will stop the elevator at the current floor and drop the passengers destined for that floor. It will also adjust total no of passengers on board.*

*(2-d) - There will be also toString method call at each floor to print the current status of the elevator.*

**How to run the assignment**

*Run the HW1.jar file from the command line.*