

## EXAM 1

**Abstract**

This is a take-home exam. It is due at the start of class on Friday, February 16. You may not discuss this exam with anyone other than the instructor. Code should be submitted as assignment `exam1` using `handin`.

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Your company has been contracted to work on a new system for an event ticket sales outfit. Your job is to develop a class hierarchy for tickets. All ticket types have an associated event and a processing fee. Events are represented by their name, date, and base cost where the date is the month, day, and year of the event. Costs and fees are always a fixed dollar amount with no cents but can of course vary between events and tickets. Tickets come in two flavors: general admission and seated. General admission tickets have an id number that helps differentiate them from other general admissions tickets for the same event. A seated ticket has the seat's row and seat number. You need to build your tickets such that any two tickets can be compared to see if they are for the same event or if their event's dates conflict. You also need to be able to compute the total cost (event base cost plus processing fee) for any ticket.

1. Work up a complete design for the hierarchy needed for the above problem and provide a UML diagram for that design. Make any reasonable assumptions you need and state them. Points will be awarded for the correctness and completeness of the diagram as well as for making good use of interfaces and class extension.
2. Implement your design using Eclipse. Points will be awarded for proper documentation, declaration, tests, and implementation.