

**6.034 Final Examination**  
**December 15, 2008**

<b>Name</b>	
<b>E-Mail</b>	

Quiz number	Maximum	Score	Grader
1	100		
2	100		
3	100		
4	100		
5	100		

**There are 33 pages in this final, including this one. Additional pages of tear-off sheets are provided at the end with duplicate drawings and data. As always, open book, open notes, open just about everything.**

# Quiz 1, Question 1, Rules (50 points)

Before swimming in an unknown river, you want to figure out which animals are dangerous. You have a set of rules and assertions, given below.

**Rules:**

## Part A: Forward Chaining (30 points)

You may make the following assumptions about forward chaining:

- Assume rule-ordering conflict resolution
- New assertions are added to the bottom of the dataset
- If a particular rule matches assertions in the dataset in more than one way, the matches are considered in the order corresponding to the top-to-bottom order of the matched assertions. Thus, if a particular rule has an antecedent that matches both A1 and A2, the match with A1 is considered first.

Run forward chaining on the rules and assertions provided. For the first two iterations, fill out the table below, noting the rules matched, fired, and new assertions added to the data set.

	Matched	Fired	New Assertions Added to Data Set
1			
2			

Which animals (Fido, Spike, Rover) are determined to be dangerous?

Which animals (Fido, Spike, Rover) are determined to be safe?

Would changing the order of the rules affect the final decision of which animals are dangerous or safe?