

Name: \_\_\_\_\_

## Quiz 6

Foundations of Computer Science  
Fall 2007

This quiz is open book, open notes, open laptop.

1. Write a set of Prolog rules that define predicates for `intersection` so that `intersection(X,Y,Z)` is true if `X`, `Y` and `Z` are lists that represent sets, and `Z` is the intersection of `X` and `Y`.

You can assume that the elements of the sets are unique. It is sufficient if your rules work “forward”; that is, if they can compute `Z` with instantiated values for `X` and `Y`.

2. Is the set of strings countable? Sketch the proof that it is or is not.