# Homework 8: Smalltalk

This homework is due Wednesday, April 25 (by 5:00 PM).

1. (10 points) Add a method `diff:` to the class `Set`, which removes all the elements of the receiver that are in the argument.
2. (10 points) In Smalltalk there are no types that correspond to the records or variant records found in languages such as Pasal and CLU. Should they have been included in Smalltalk? Justify your answer.
3. (20 points) Do the inheritance and the class mechanisms of Smalltalk-80 adequately obey the abstraction principle? Justify your answer. Give specific and concrete suggestions as to how these mechanisms could be improved if you think they need improvement.
4. (80 points) Implement the turing machine simulator in little Smalltalk. Details on this problem will be supplied later.

**Extra credit:** If you find mistakes in the *Overview and Specification of the Built-In Types in Little Smalltalk* or the *Supplement*, you will receive

- 1 point for each typographical error,
- 2 points for each specification error,

that you discover (i.e., which Professor Leavens has not already found or heard about). These points will be added to the score for this homework. (It's probably not worth your time to go through the document carefully, but if you find something while you are looking something else up, let Professor Leavens know.)