Theory of Computation — CSE 105

Computability
Homework 3

Homework 3: The solutions to the following problems should be turned in class by July 30, 1999.

1. Let $A = \{\langle M \rangle | \ M$ is a DFA which doesn't accept any string containing an odd number of 1s$\}$. Show that A is decidable.

2. Show that $L_{sub} = \{\langle T_1, T_2 \rangle | \ T_1$ and T_2 are Turing Machines and $L(T_1) \subseteq L(T_2)\}$ is undecidable.

3. Give an example in the spirit of the recursion theorem of a program in a real programming language (or a reasonable approximation thereof) that prints itself out.