

## Problem Set 5 — Due 7 September 2000

**Problem 1.** Design a TM which decides if its input, which is a number written in unary, is a square. That is, the TM accepts if the input is of the form  $1^{i^2}$ , for some  $i \geq 0$ , and rejects otherwise. Represent your TM using the notation used in class and in the book.