

Problem Set 4 Recursion Theory

Institute for Logic, Language and Computation
Universiteit van Amsterdam

Due October 5, 2005

[CT] is *Computability Theory* by Barry Cooper.

1. **Exercise 4.2.4, pg. 64** Show that there is no list $\{f_e\}_{e \geq 0}$ of all (total) computable functions for which $f_z(x)$ is a computable function of x and z .
2. **Exercise 4.2.5, pg. 64** (The Padding Lemma) Show that if f is a given p.c. function, then there exist infinitely many indices i for f (i.e., numbers i for which $f = \phi_i$).