

Theory of Computation

Exercise 6:

(Pumping Lemma)

Prove by Pumping Lemma that the following languages are not regular.

1. $L_1 = \{ 0^i 1^j : j \text{ is a multiple of } i \}$

2. $L_2 = \{ 0^i 1^j : i < j \}$

*3. $L3 = \{ 0^i 1^j : i \geq j \}$

(Homework 5)