

Formal Language and Automata Theory (CS21004)

Tutorial - X

Class: CSE 2nd Year

Date: 29th March, 2010

Exercise 1. Prove that the complement of a recursive set is also *recursive*.

Exercise 2. What can you conclude about L if both L and \bar{L} are recursively enumerable?

Exercise 3. Is $L_1 \cup L_2$ *recursively enumerable (recursive)*, if L_1 and L_2 are *recursively enumerable (recursive)*?

Exercise 4. Is $L_1 \cap L_2$ *recursively enumerable (recursive)*, if L_1 and L_2 are *recursively enumerable (recursive)*?

Exercise 5. Is L_1L_2 *recursive*, if L_1 and L_2 are *recursive*?

Exercise 6. Is L_1L_2 *recursively enumerable*, if L_1 and L_2 are *recursively enumerable*?