

Automata and Formal Languages

Homework Set 5

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<http://staffweb.ncnu.edu.tw/shieng>

Due date: Oct. 29

Problem 1

Give regular expressions for the following languages on $\{a, b\}$.

1. $L = \{a^n b^m \mid n \geq 4, m \leq 3\}$.
2. The complement of L .

Problem 2

What languages do the expression $(\emptyset^*)^*$ and $a\emptyset$ denote?

Problem 3

Find all strings in $L((a + b)^* b (a + ab)^*)$ of length less than four.

Problem 4

Find DFA that recognize the language $L(aa^* + aba^*b^*)$.