COSC 341 – Tutorial 8/9

1. Are the following languages automatic languages? If so, construct an NFA for that language. If not, prove that the language is not automatic.

   (a) $L = \{w | w$ is a palindrome over $\{a, b\}\}$

   (b) $L = \{a^n b^m | n, m \in \mathbb{N}\}$

   (c) $L = \{a^n b^m | n < m\}$

   (d) $L = \{ww | w \in \{a, b\}^*\}$

Homework

1. Are the following languages automatic languages? If so, construct an NFA for that language. If not, prove that the language is not automatic.

   (a) $L = \{w | w$ has twice as many a's as b's$\}$

   (b) $L = \{w | w \in \{a, b\}^*$, the total number of a's and b's is odd$\}$