

# Logics and Mathematics – 13<sup>th</sup> lecture

## Exercise sheet

Preining Norbert

**Problem 1** Give Turing machines (graph and program) that accept the following languages:

- $aba^*b^*a^*ba$
- $(abb)^*(abb)$
- $a^nba^n, \quad n = 3, 4, 5$

**Problem 2** Give Turing machines (graph and program) that compute the following functions:

- $f(n) = 2n$
- $f(n, m) = n \cdot m$