

# Languages, automata and computation II

## Homework 3 (draft version)

### Problems: deadline XX/01/2025

**Problem 1.** Show that the following problem is decidable:

1. **Input.** A deterministic register automaton, defining language  $L \subseteq \mathbb{A}^*$ ;
2. **Question.** Does the language satisfy

$$w \in L \quad \Leftrightarrow \quad \sigma(w) \in L$$

for every function  $\sigma : \mathbb{A} \rightarrow \mathbb{A}$ , not necessarily a permutation.

### Star problems

### Open problems