

## Exercise 2

**Problem 1.** Explain the difference between a regular register and an atomic register. Provide an example execution that is allowed for a regular register but not allowed for an atomic register.

**Problem 2.** Consider the transformation from binary regular to M-valued MRSW regular registers given in class. Prove that:

1. The resulting registers are regular.
2. The transformation would not work if the Write operation would first write 0, and then 1. (You should provide a counterexample that breaks regularity.)
3. The resulting registers are not atomic. (You should provide a counterexample execution that breaks atomicity.)