

## ***Homework #2*** due March 11, Tuesday 2025, before recitation

(1) Try to simplify the following expressions and justify your simplification.

(i)  $(0+1)^*.1.(0+1) + (0+1)^*.1.(0+1)$

(ii)  $((0^*.1^*)+1)^*(0+1)^*$

(iii)  $(L+M^*)^*$

(iv)  $(LM^*)^*$

(2) Convert the regular expression  $((0.0^*.1.1)^+ 0.1)^*$  into an  $\epsilon$ -NFA

### ***(3) Problems from the textbook***

3.1.1 (b) and (c)

3.1.4 (b) and (c)

3.2.1 (c) and (d)

3.2.3