

Exercise from properties of fuzzy implications and fuzzy equivalence relations.

**Exercise 5.1** Find which implications presented explicitly in the lecture satisfy the exchange axiom (for the same implication in all instances)

$$\alpha \dot{\rightarrow} (\beta \dot{\rightarrow} \gamma) = \beta \dot{\rightarrow} (\alpha \dot{\rightarrow} \gamma). \quad (\text{I5})$$

**Exercise 5.2** Find all binary relations  $R$  on the set  $\{A, B, C\}$ , which satisfy  $R(A, B) = 0.6$  and are

1. standard equivalencies,
2. product equivalencies,
3. Łukasiewicz equivalencies.