

Tutorial for

Introduction to Computational Intelligence in Winter 2009/10

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<http://ls11-www.cs.tu-dortmund.de/people/rudolph/teaching/lectures/CI/WS2009-10/lecture.jsp>

Sheet 6, Block B

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Exercise 6.1: Fuzzy Complement (5 Points)

Prove that a fuzzy complement obtained from an arbitrary increasing generator must be involutive, i.e. $\forall a \in [0, 1] : c(c(a)) = a$.

Exercise 6.2: Dual Triples (5 Points)

Prove that the following operator triples are dual triples.

(a) $t(a, b) = ab$,
 $s(a, b) = a + b - ab$,
 $c(a) = 1 - a$

(b) $t(a, b) = \max\{0, a + b - 1\}$,
 $s(a, b) = \min\{1, a + b\}$,
 $c(a) = 1 - a$