1705027

COURSE : DISCRETE MATHEMATICS
SOLVING_STUDENT_ID: 1705027
VERIFYING_STUDENT_ID: 1705108

Problem :

Ex. no: 47

Question:
Fuzzy logic is used in arti?cial intelligence. In fuzzy logic, a proposition has a truth value that is a number between 0 and 1, inclusive. A proposition with a truth value of 0 is false and one with
a truth value of 1 is true.Truth values that are between 0 and 1 indicate varying degrees of truth. For instance,the truth value 0.8 can be assigned to the statement “Fred is happy,because Fred is happy most of the time, and the truth value 0.4 can be assigned to the statement “John is happy,” because John is happy slightly less than half the time.

The truth value of the disjunction of two propositions in fuzzy logic is the maximum of the truth values
of the two propositions. What are the truth values of the statements “Fred is happy, or John is happy” and

**“Fred is not happy, or John is not happy?”**

**Answer :**

**For "Fred is not happy," the truth value is 1 - 0.8 = 0.2.**
**For "John is not happy,'' the truth value is 1- 0.4 = 0.6.**

**For "Fred is happy, or John is happy,'' the truth value is max(0.8, 0.4) = 0.8.**
**For ''Fred is not happy, or John is not happy," the truth value is max(0.2, 0.6) = 0.6**