30/01/2020 **CLASS ACTIVITY** 1740256

---------------------------------------------------------------------------------------------------------

1. *Consider following two sets*

*Arich= {(0.7,a),(0.6,b),(0.3,c),(0.4,d),(0.2,e)}*

*Bpoor= {(0.2,a),(0.5,b),(0.8,c),(0.7,d),(0.8,e)}*

*For the above mentioned sets, compute*

*Union*

*Intersection*

*Comments*

**Ans**

Union ~ {(0.7,a),(0.6,b),(0.8,c),(0.7,d),(0.8)}  
Intersection ~ {(0.2,a),(0.5,b),(0.3,c),(0.4,d),(0.2,e)}  
Comments ~

The above answers are the union and intersection of the 2 sets given(A~rich and B~poor). The union is derived by taking the maximum of each element in 2 sets whereas intersection is derived by taking the minimum of each element in the 2 sets given respectively.

1. Consider following two sets

ADataScience= {(0.7,a),(0.6,b),(0.3,c),(0.4,d),(0.2,e)}

BResearch= {(0.6,a),(0.8,b),(0.2,c),(0.5,d),(0.3,e)}

For the above mentioned sets, compute

Union

Intersection

Comments

**Ans**Union ~ {(0.7,a),(0.8,b),(0.3,c),(0.5,d),(0.3,e)}

Intersection ~ {(0.6,a),(0.6,b),(0.2,c),(0.4,d),(0.2,e)}

Comments ~

The above answers are the union and intersection of the 2 sets given(A~data science and B~research). The union is derived by taking the maximum of each element in 2 sets whereas intersection is derived by taking the minimum of each element in the 2 sets given respectively.   
---------------------------------------------------------------------------------------------------------

1. Comment on - Law of contradiction(F ∩ FC ) and Law of excluded middle F ∪ FC with respect to fuzzy sets (using either question 1 or question 2 data)

**Ans**

*From question 1*

LAW OF CONTRADICTION ~ (F ∩ FC )

F ~ A ~ *= {(0.7,a),(0.6,b),(0.3,c),(0.4,d),(0.2,e)}*

FC ~ AC = {(0.3.a),(0.4,b),(0.7,c),(0.6,d),(0.8,e)

(F ∩ FC ) = {(0.3,a),(0.4,b),(0.3,c),(0.4,d),(0.2,e)}

LAW OF EXCLUDED MIDDLE ~ (F ∪ FC )

F ~ A ~ *= {(0.7,a),(0.6,b),(0.3,c),(0.4,d),(0.2,e)}*

FC ~ AC = {(0.3,a),(0.4,b),(0.7,c),(0.6,d),(0.8,e)}

(F ∪ FC) = {(0.7.a),(0.6,b),(0.7,c),(0.6,d),(0.8,e)}

---------------------------------------------------------------------------------------------------------

1. For a fuzzy set A, Support(A)= set of all points with membership>0.

Singleton of a fuzzy set is defined as a fuzzy set with support as single point with membership 1. Relate with a real-world example.

**Ans**

Only 1 student out of the many students in the class thoroughly understood what the teacher was teaching in class.

---------------------------------------------------------------------------------------------------------

1. Fuzzy subset. A is called as subset of B is μA(x) <= μB(x). Give one example.

**Ans**

Set of boys in the set of CMS students.

--------------------------------------------------------------------------------------------------------------------------------------