

Contemporary Data Processing Technology(CCOD)
Lab7(October 15,2016)
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Table of Rules:

x1	x2	x3	x4
medium	large	small	very small
large	large	medium	medium
very large	very large	very large	large

Membership Function for Very Small: $e^{\frac{-(x-0.143667)^2}{0.00385}}$

Membership Function for Small: $e^{\frac{-(x-0.318571)^2}{0.005069}}$

Membership Function for Medium: $e^{\frac{-(x-0.560488)^2}{0.002102}}$

Membership Function for Large: $e^{\frac{-(x-0.712558)^2}{0.002626}}$

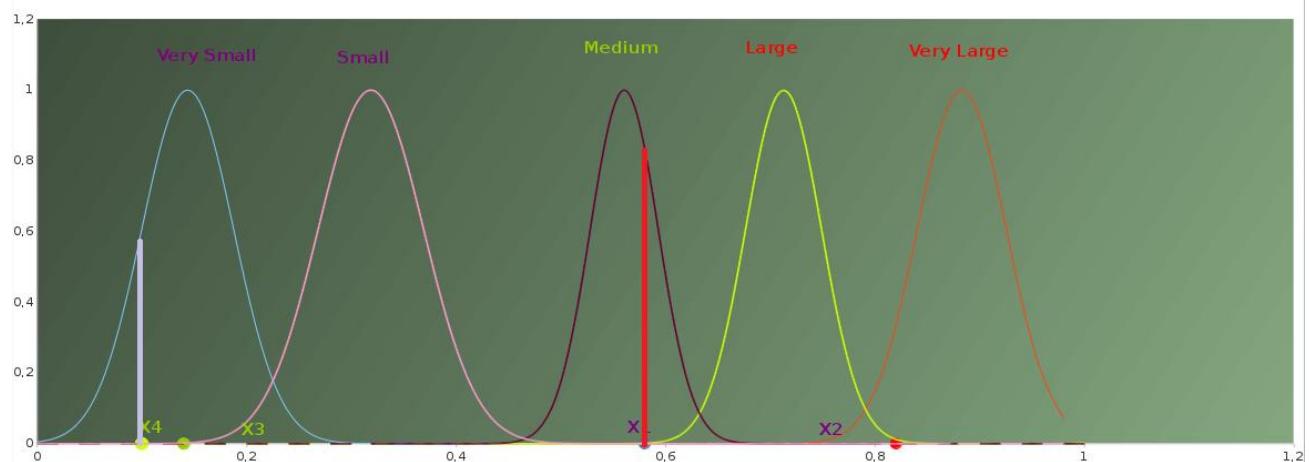
Membership Function for Very Large: $e^{\frac{-(x-0.88275)^2}{0.003615}}$

We would calculate here M and Y for values from column C

Iris Setosa: x1=0.58, x2=0.82, x3=0.14, x4=0.08

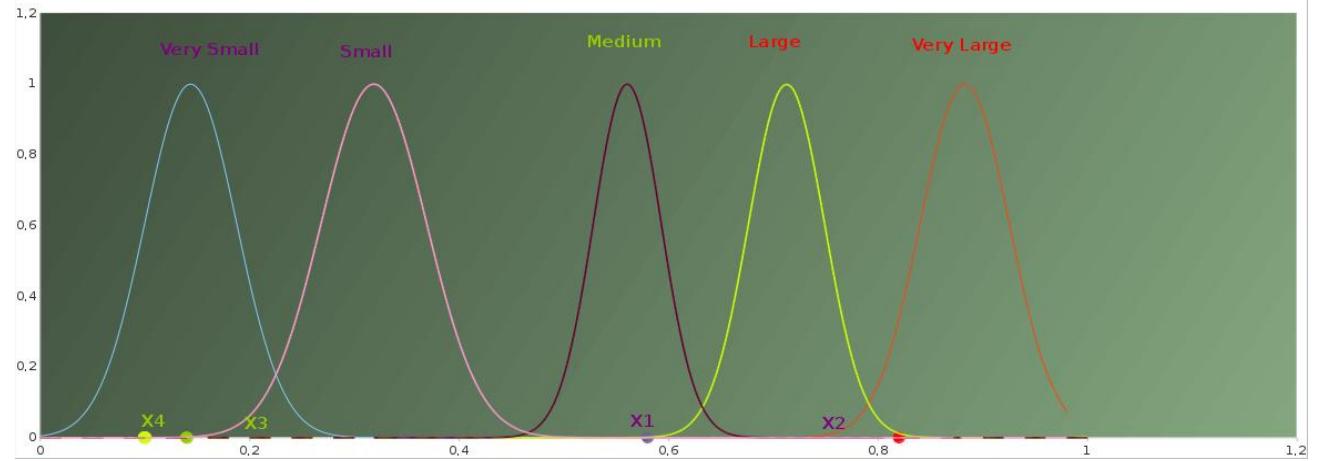
IF x1=medium AND x2=large AND x3=small AND x4=very small THEN A

$$M1 = 0.8343451147804158 \times 0.012327507269861402 \times 0.9965139262378857 \times 0.34893378632011085 = \\ = 0.0035764107376947425$$



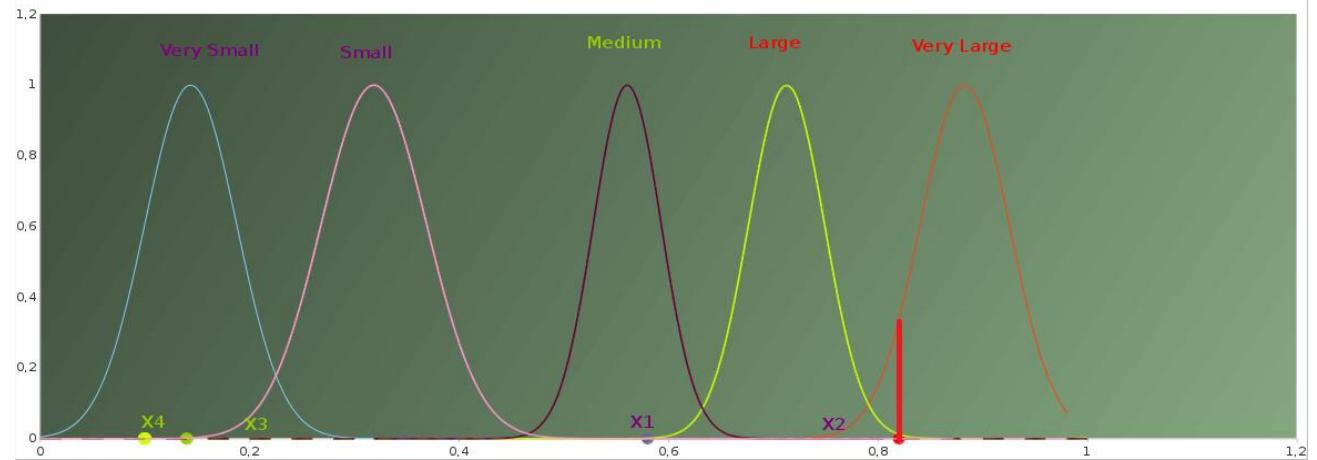
IF $x_1=\text{large}$ AND $x_2=\text{large}$ AND $x_3=\text{medium}$ AND $x_4=\text{medium}$ THEN A

$$M2 = 9.735642875969349e-12 \times 0.012327507269861402 \times 2.970018684357756e-37 \times 2.0173743543404573e-48 = 7.190938575606296e-98$$



IF $x_1=\text{very large}$ AND $x_2=\text{very large}$ AND $x_3=\text{very large}$ AND $x_4=\text{large}$ THEN A

$$M3 = 9.735642875969349e-12 \times 0.012327507269861402 \times 5.273327825985729e-67 \times 3.8159966380221206e-78 = 2.4150863108687044e-157$$



$$Y = 0.0035764107376947425 / 0.0035764107376947425 = 1$$