

## Tutorial #7: FUZZY LOGIC

Using the given FAMM, output values and membership functions, calculate the crisp output of the fuzzy system when  $x = -0.7$  and  $y = -3$ .

### Fuzzy Associative Memory Matrix (FAMM)

Outputs:

NL=-5

NS=-2.5

ZE=0

PS=2.5

PL=5.0

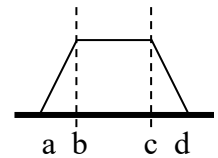
		x		
		N	ZE	P
y	S	NL	NS	NS
	M	NS	ZE	PS
	L	PS	PS	PL

### Fuzzy Associative Memory Matrix (FAMM)

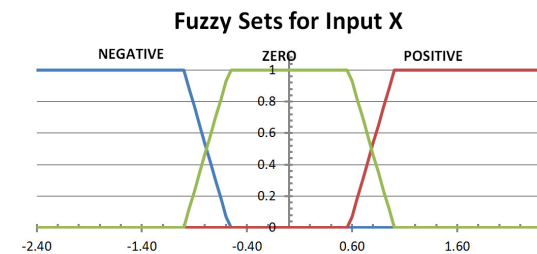
Assume that the fuzzy combination operator used is the Zadeh AND.

		x		
		N	ZE	P
y	S	NL	NS	NS
	M	NS	ZE	PS
	L	PS	PS	PL

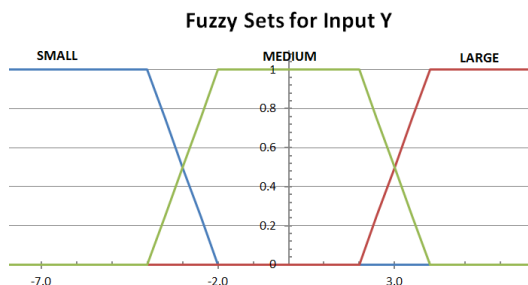
		x		
		N	ZE	P
y	S	W1	W4	W7
	M	W2	W5	W8
	L	W3	W6	W9



All fuzzy sets are of type trapezoidal.



	a	b	c	d
NEG	0	0	-1	-0.57
ZE	-1	-0.57	0.57	1
POS	0.57	1	0	0



	a	b	c	d
S	0	0	-4	-2
M	-4	-2	2	4
L	2	4	0	0