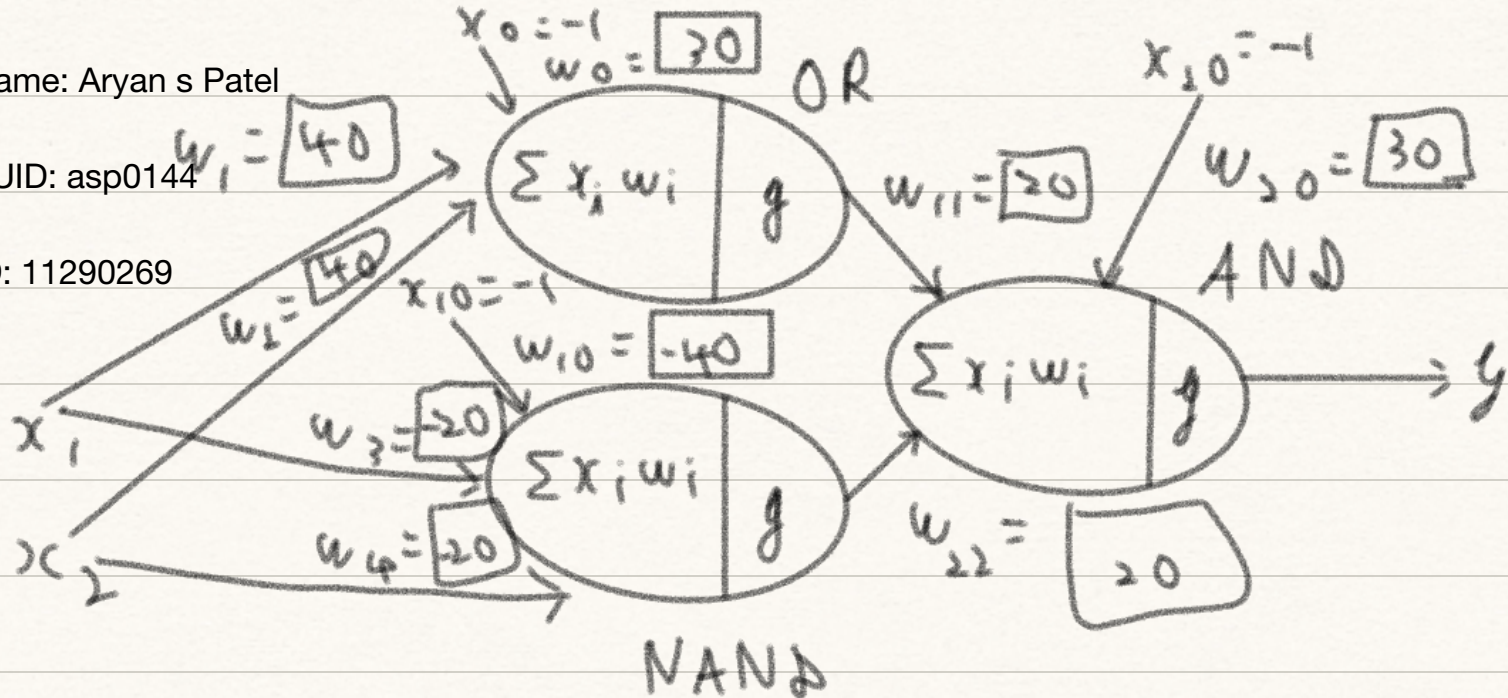


Name: Aryan s Patel

EUID: asp0144

ID: 11290269



$$-x_0 w_0 + w_1 x_1 + w_2 x_2 \rightarrow -x_{10} w_{10} + w_{11} \text{ OR} + w_{12} \text{ NAND}$$

$$-x_{10} w_{10} + w_3 x_1 + w_4 x_2$$

$$-30 + 40 x_1 + 40 x_2 \rightarrow -30 + 20 \text{ OR} + 20 \text{ NAND}$$

$$40 - 20 x_1 - 20 x_2$$

x_1	x_2	y	OR	NAND	AND
0	0	0	OR	$-(30) + 40(0) + 40(0) < 0$	$-(30) + 40(0) + 40(0) < 0$
0	1	1	OR	$-(30) + 40(0) + 40(1) > 0$	$-(30) + 20(0) + 20(1) < 0$
1	0	1	OR	$-(30) + 40(1) + 40(0) > 0$	$-(30) + 20(1) + 20(0) < 0$
1	1	0	OR	$-(30) + 40(1) + 40(1) > 0$	$-(30) + 20(1) + 20(1) > 0$

$-10 < 0$

$$0 \quad 1 \quad 1 \quad \text{OR} \quad -(30) + 40(0) + 40(1) > 0$$

$$\text{NAND} - (-40) - 20(0) - 20(1) > 0$$

$$\text{AND} - (30) + 20(1) + 20(1) > 0$$

$$10 > 0$$

$$1 \quad 0 \quad 1 \quad \text{OR} - (30) + 40(1) + 40(0) > 0$$

$$\text{NAND} - (-40) - 20(1) - 20(0) > 0$$

$$\text{AND} - (30) + 20(1) + 20(1) > 0$$

$$10 > 0$$

$$1 \quad 1 \quad 0 \quad \text{OR} - (30) + 40(1) + 40(1) > 0$$

$$\text{NAND} - (-40) - 20(1) - 20(1) < 0$$

$$\text{AND} - (30) + 20(1) + 20(0) < 0$$

$$-10 < 0$$