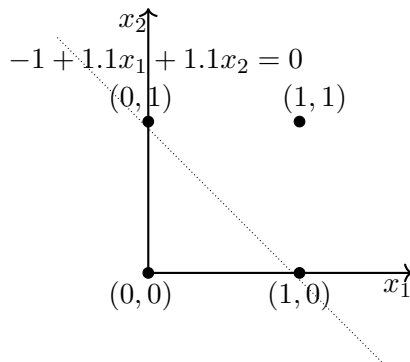
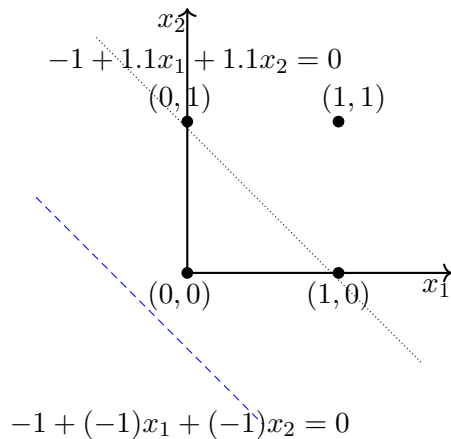


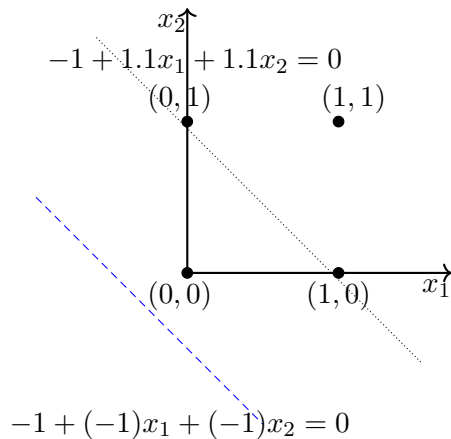
- Let us fix the threshold ($-w_0 = 1$) and try different values of w_1, w_2



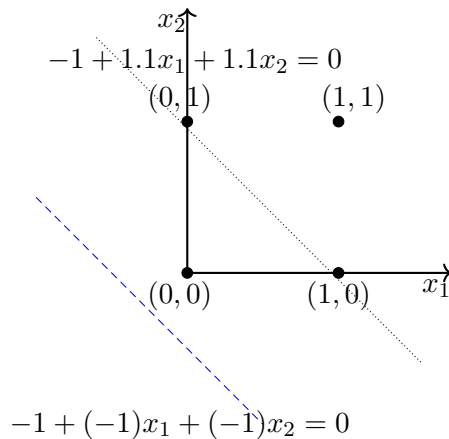
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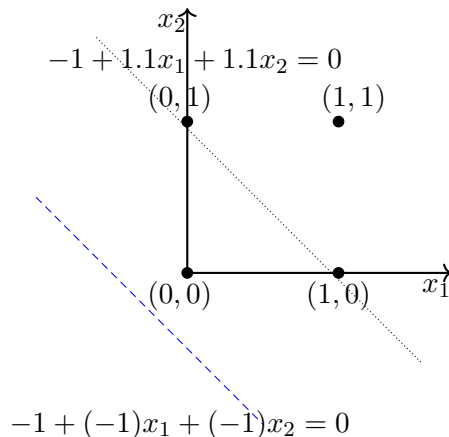
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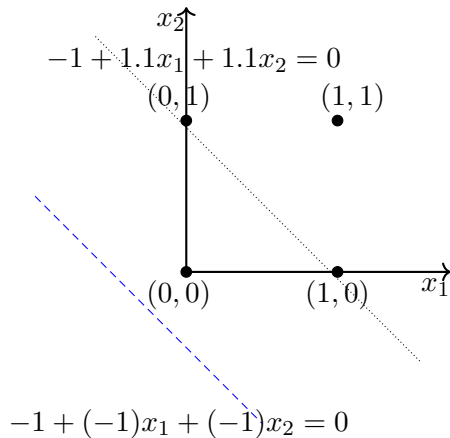


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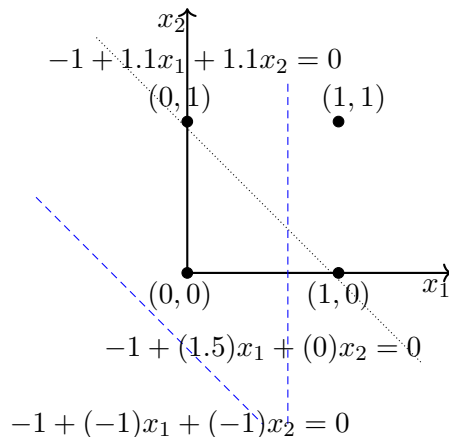
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w_1	w_2	errors
-1	-1	1



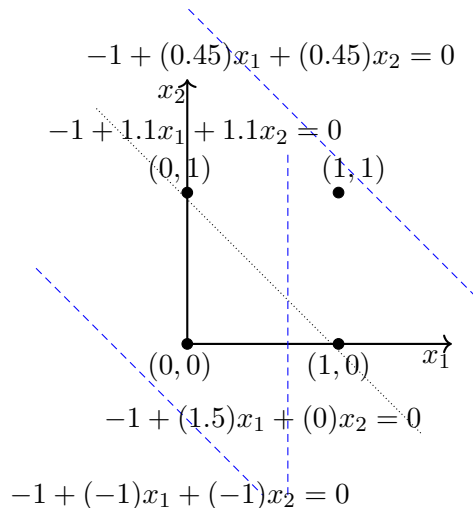
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w_1	w_2	errors
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1.5	0	1



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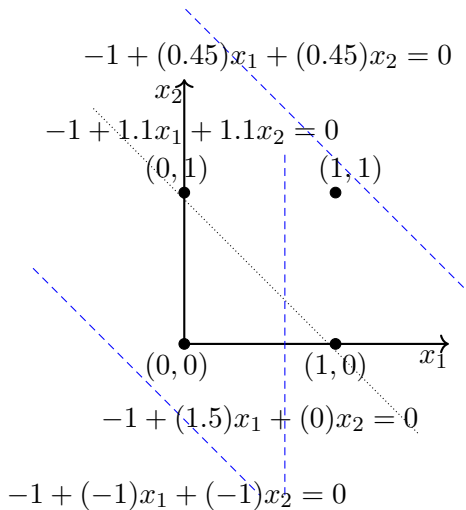
w_1	w_2	errors
-1	-1	1
1.5	0	1
0.45	0.45	3



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w_1	w_2	errors
-1	-1	1
1.5	0	1
0.45	0.45	3

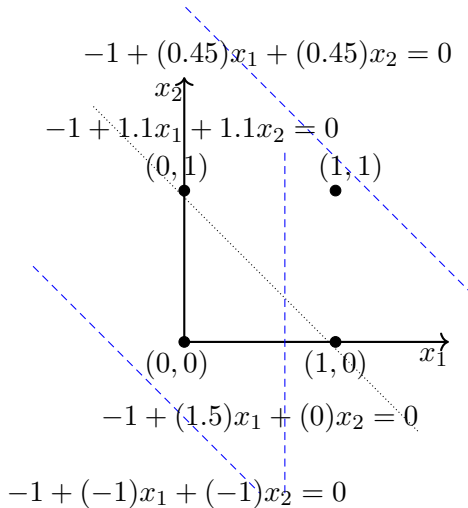
- We are interested in those values of w_0, w_1, w_2 which result in 0 error



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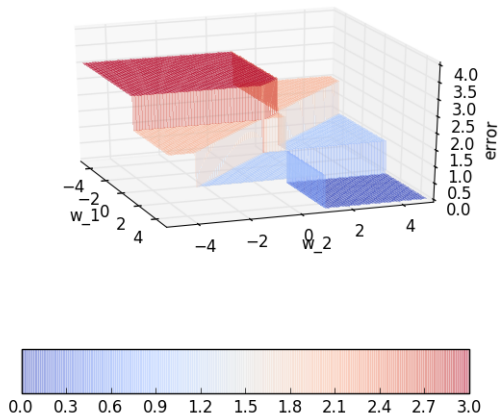
- We are interested in those values of w_0, w_1, w_2 which result in 0 error
- Let us plot the error surface corresponding to different values of w_0, w_1, w_2



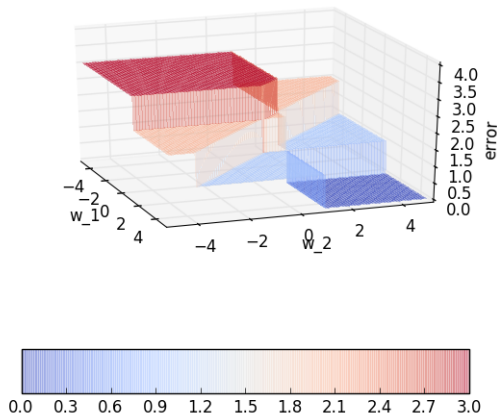
- For ease of analysis, we will keep w_0 fixed (-1) and plot the error for different values of w_1, w_2

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- For a given w_0, w_1, w_2 we will compute $-w_0 + w_1 * x_1 + w_2 * x_2$ for all combinations of (x_1, x_2) and note down how many errors we make

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- For a given w_0, w_1, w_2 we will compute $-w_0 + w_1 * x_1 + w_2 * x_2$ for all combinations of (x_1, x_2) and note down how many errors we make
- For the OR function, an error occurs if $(x_1, x_2) = (0, 0)$ but $-w_0 + w_1 * x_1 + w_2 * x_2 \geq 0$ or if $(x_1, x_2) \neq (0, 0)$ but $-w_0 + w_1 * x_1 + w_2 * x_2 < 0$



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- We are interested in finding an algorithm which finds the values of w_1, w_2 which minimize this error