Final #2

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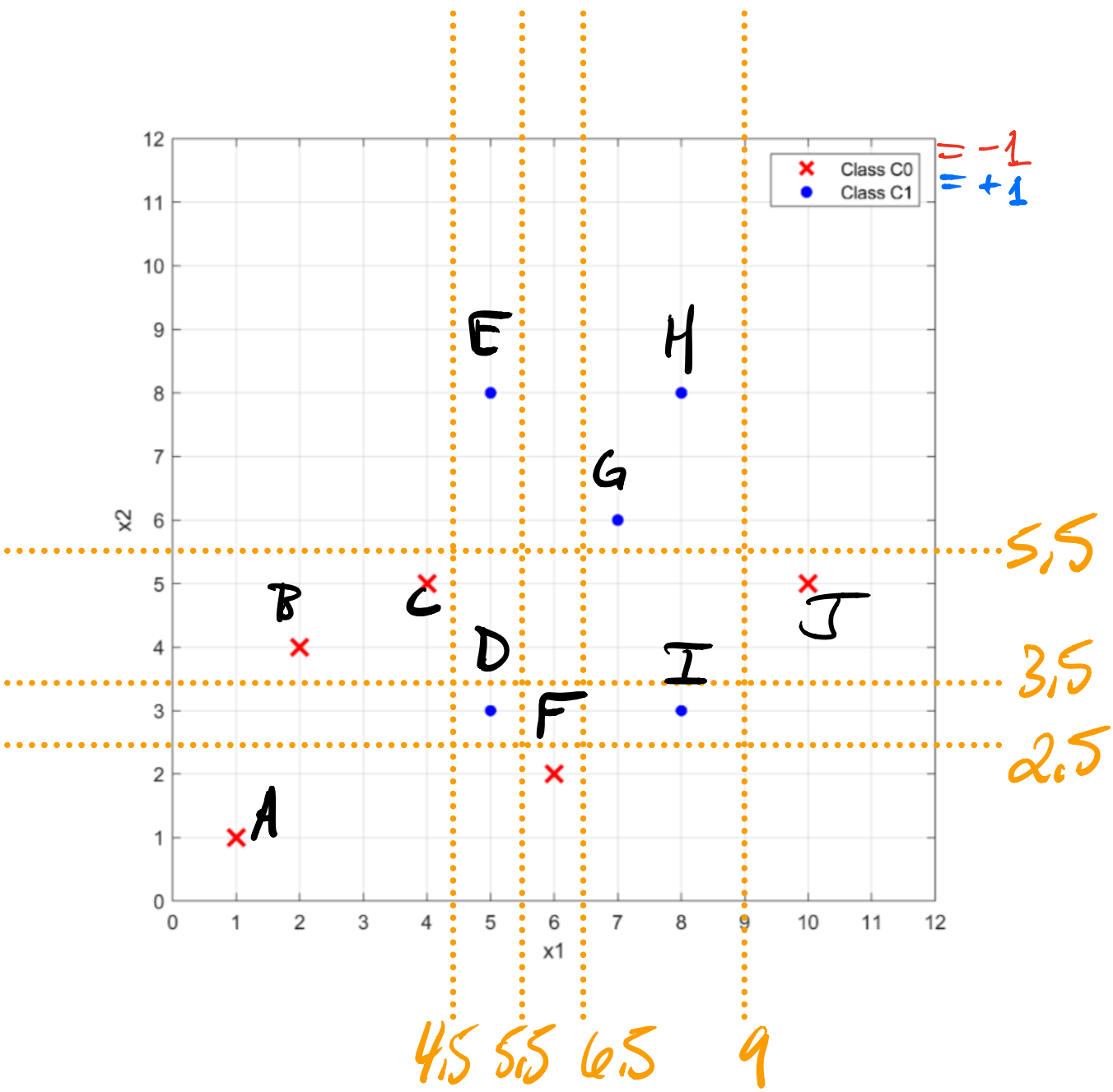
Part 1.



			1	2	3
	Boundary	Miss-Class	ε	ε	ε
1	$x_1 < 4.5$	ABCDE GHI	8/10	8/16	20/28
2	$x_1 < 5.5$	ABC GHI	6/16	6/16	12/28
3	$x_1 < 6.5$	ABCF GHI	7/10	10/16	16/28
4	$x_1 < 9$	ABCF	4/10	7/16	7/28
5	$x_1 > 4.5$	FJ	2/10	8/16	8/28
6	$x_1 > 5.5$	DE FJ	4/10	10/16	16/28
7	$x_1 > 6.5$	DE J	3/10	6/16	12/28
8	$x_1 > 9$	DE GHIJ	6/10	9/16	21/28
9	$x_2 < 2.5$	ADEFGHI	7/10	10/16	22/28
10	$x_2 < 3.5$	AEFGH	5/10	8/16	8/28
11	$x_2 < 5.5$	ABCEFGHJ	8/10	14/16	14/28
12	$x_2 > 2.5$	BCJ	3/10	6/16	6/28
13	$x_2 > 3.5$	BCD IJ	5/10	8/16	20/28
14	$x_2 > 5.5$	DI	2/10	2/16	14/28
	w_A		1/10	1/16	1/28
	w_B		1/10	1/16	1/28 ✗
	w_C			1/16	1/28 ✗
	w_D			1/16 ✗	7/28
	w_E			1/16	1/28
	w_F	✗		4/16	4/28
	w_G			1/16	1/28
	w_H			1/16	1/28
	w_I			4/16 ✗	7/28
	w_J		1/10 ✗	4/16	4/28 ✗
	h		$x_1 > 4.5$	$x_2 > 5.5$	$x_2 > 2.5$
	ε		2/10	2/16	6/28
	α		$\frac{1}{2}\ln 4$	$\frac{1}{2}\ln 7$	$\frac{1}{2}\ln\frac{22}{6}$

$w_i = \frac{1}{N}$

$\varepsilon = \sum_{\text{wrong}} w_i$

$\alpha = \frac{1}{2}\ln\left(\frac{1-\varepsilon}{\varepsilon}\right)$

$w_i = \begin{cases} \frac{1}{2}\frac{1}{1-\varepsilon} w_i & \text{if } \checkmark \\ \frac{1}{2}\frac{1}{\varepsilon} w_i & \text{if } \times \end{cases}$

$$H(\vec{x}) = \text{SIGN}\left[\frac{1}{2}\ln 4\,(x_1 > 1.5) + \frac{1}{2}\ln 7\,(x_2 > 5.5) + \frac{1}{2}\ln\frac{22}{6}\,(x_2 > 2.5)\right]$$

↓ ↓ ↓

Must be fxn that returns ± 1