# Part 1

|  |  |
| --- | --- |
|  |  |
| |  |  |  |  |  | | --- | --- | --- | --- | --- | |  |  |  |  |  | | (1,1) |  | 1 |  | 0.1353 | | (0,1) |  | 0.3678 |  | 0.3678 | | (0,0) |  | 0.1353 |  | 1 | | (1,0) |  | 0.3678 |  | 0.3678 | |

Decision boundary is

Use to calculate bias and margins

|  |  |
| --- | --- |
| Bias: |  |
|  | |
| margin: | margin: |
|  |  |

# Part 2

|  |  |
| --- | --- |
|  | Coordinates of features  in the hidden layer |
| |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | |  |  |  |  |  |  |  | | 0 | 0 | -0.5 | 0.38 | -0.5 | 0.38 | 0 | | 0 | 1 | -1.5 | 0.18 | 0.5 | 0.62 | 1 | | 1 | 0 | 0.5 | 0.62 | -1.5 | 0.18 | 1 | | 1 | 1 | -0.5 | 0.38 | -0.5 | 0.38 | 0 | |

Find the bias and equation of the decision boundary with

weight vector and equal margins for both groups.

|  |  |
| --- | --- |
| Bias: | Decision Boundary: |
|  |  |

Calculate margins to verify that they are equal.

|  |  |
| --- | --- |
| margin: | margin: |
|  |  |