

## Homework2

### 1.c

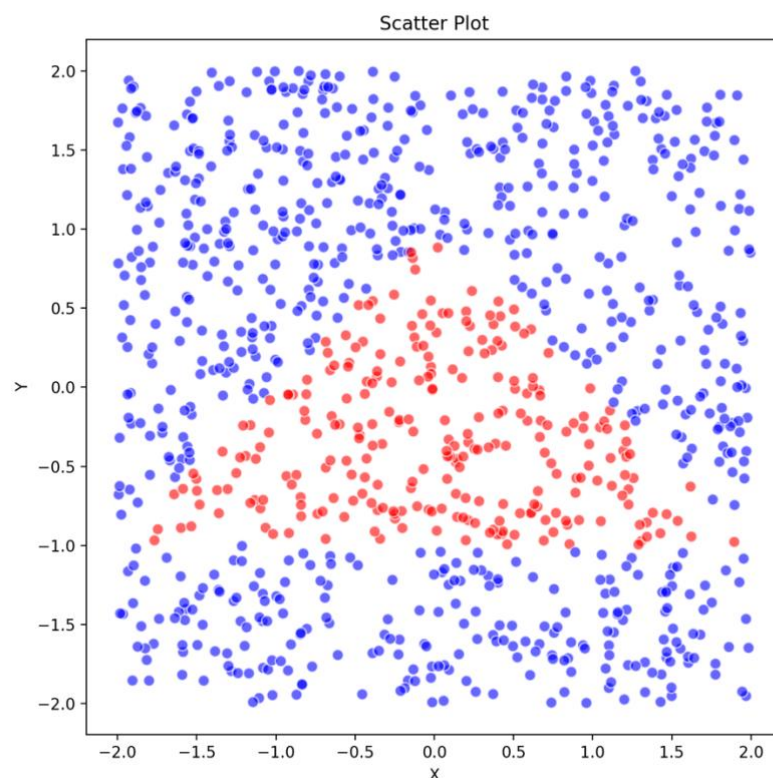
These are the tables obtained by applying the logical statement and the analytical equation. We can clearly see that they match (False=-1, True=1) and this proves that the chosen weights and biases correctly represent the required behavior.

x1	x2	x3	$y=(x1 \wedge x2 \wedge \neg x3) \vee (\neg x2 \wedge x3)$
1	1	1	-1
1	1	-1	1
1	-1	1	1
1	-1	-1	-1
-1	1	1	-1
-1	1	-1	-1
-1	-1	1	1
-1	-1	-1	-1

x1	x2	x3	$y=f(x)$
True	True	True	False
True	True	False	True
True	False	True	True
True	False	False	False
False	True	True	False
False	True	False	False
False	False	True	True
False	False	False	False

### 2.c

Here is the scattered plot obtained with the submitted code named exercise1.py. From the output we see a quite clear distinction between the red and the blue areas: the red area is almost shaped like a triangle centered in the origin.



2.d

A possible sketch of the decision boundary is the following.

