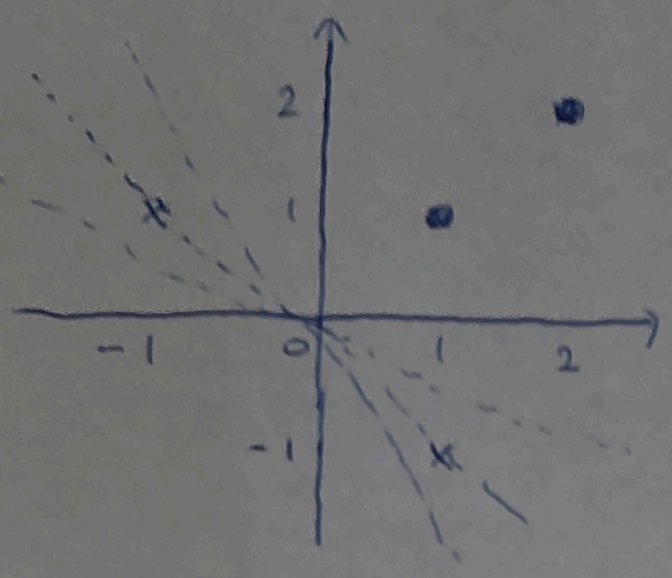

• for positive
x for negative

(a) For a circle with radius x, for some x segregates negative and positive examples, the positive and negative examples cannot lie on the circumference. In this case, when $x \leq 1$, the negative examples $(-1, 1)$ and $(1, -1)$ will be misclassified as positive, and when $x \geq 1$, the positive example $(1, 1)$ is misclassified as negative.

(b) For a line that passes through the origin, $y = mx + c$, where $c = 0$.

There is no m where positive and negative examples are segregated into different halves.

when $x \geq -1$, point $(1, -1)$ is misclassified as positive

Or $x \geq 1$

$-1 \leq x \leq 1$, point $(-1, 1)$ is misclassified as positive