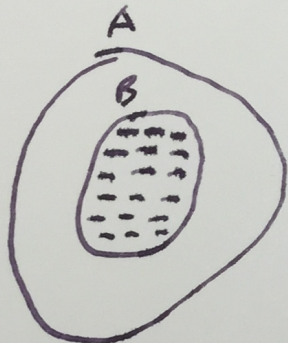


$$X = P(\bar{A}|B)$$

$$- = P(A|B)$$

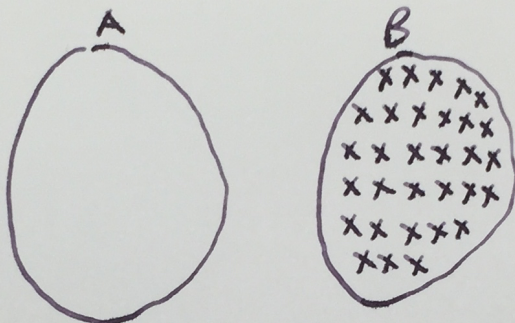
3 Cases

1. $P(A|B) = 1$



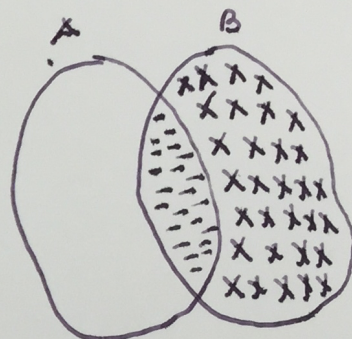
B completely in A, so $P(A|B)$ is 1, and B is completely filled

2. $P(\bar{A}|B) = 1$



A and B are completely disjoint, so $P(\bar{A}|B) = 1$, and B is still completely filled up.

3. $0 < P(A|B) < 1$
and
 $0 < P(\bar{A}|B) < 1$



~~Some of A is in B and some of A is not in B, and B~~
In all other cases, B is still completely filled with a mix of $P(A|B)$ and $P(\bar{A}|B)$