

prior: $P(C) = 0.01 = 1\%$ $P(\neg C) = 0.99$
 $P(Pos|C) = 0.9 = 90\%$ $P(Pos|\neg C) = 0.1$
 $P(Neg|\neg C) = 0.9$

~~posterior:~~
 joint
 $P(C, Pos) = P(C) \cdot P(Pos|C) = 0.009$
 $P(\neg C, Pos) = P(\neg C) \cdot P(Pos|\neg C) = 0.099$

normalizer
 $P(Pos) = P(C, Pos) + P(\neg C, Pos) = 0.108$

posterior:
 $P(C|Pos) = \boxed{0.0833}$
 $P(\neg C|Pos) = \boxed{0.9167}$ } = 1