

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

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

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

posterior:
 $P(C|\text{Pos}) = \boxed{0.0833}$
 $P(\neg C|\text{Pos}) = \boxed{0.917}$

