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Day-2 TASK

When to use Bayes' Rule

You have a hypothesis

You've observed some evidence

You want $P(H|E)$

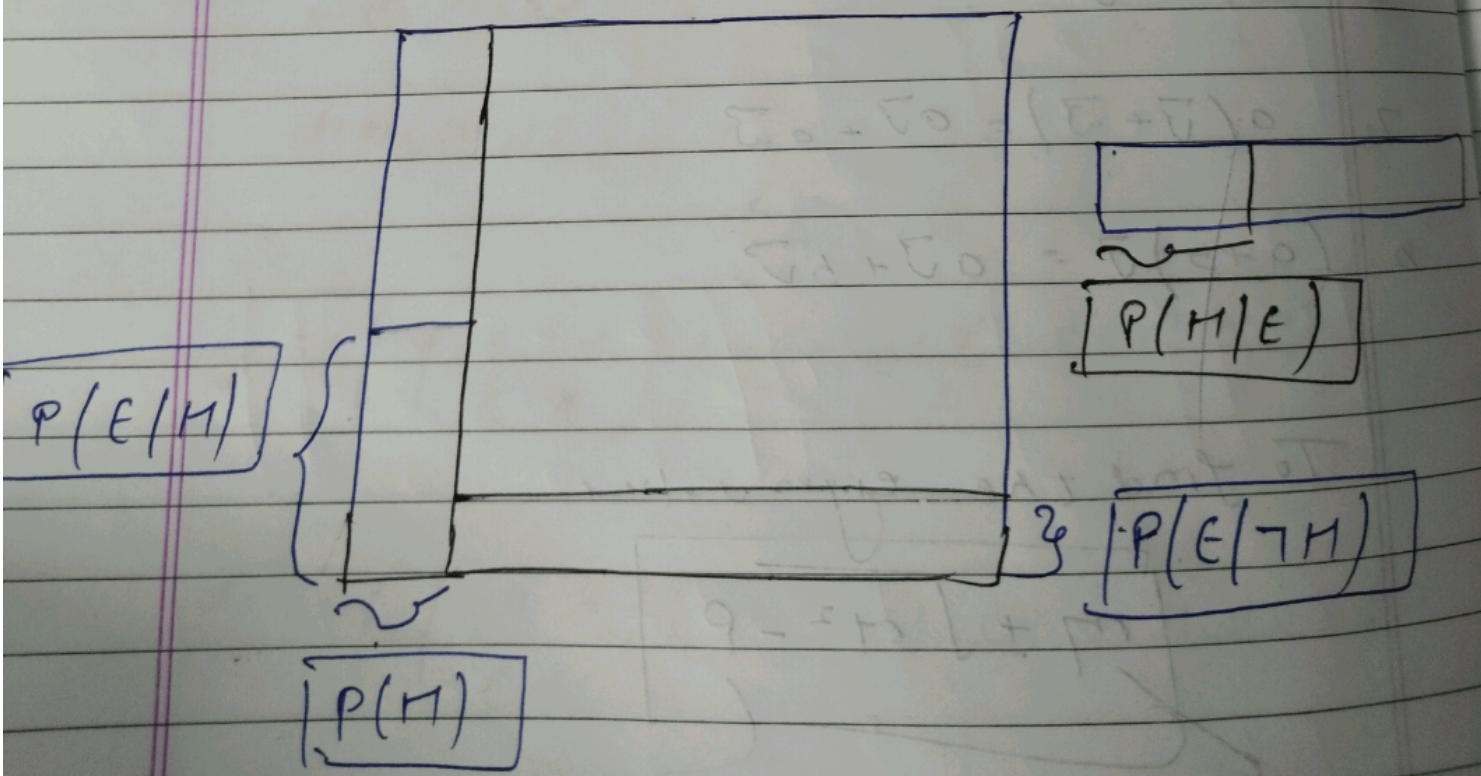
P (hypothesis given the evidence)

Steve

Librarian

Bayes theorem

$$P(H|E) = \frac{P(H)\,P(E|H)}{P(E)} = \frac{P(H)\,P(E|H)}{P(H)\,P(E|H) + P(\neg H)\,P(E|\neg H)}$$



How to read a string

10 out of 10 → $\frac{11}{12}$ ≈ 91.7%

48 out of 50 → $\frac{49}{52}$ ≈ 94.2%

186 out of 200 → $\frac{187}{202}$ ≈ 92.6%

$P(\text{Positive Experience} \mid S) = S(0.95)$

$P(48\checkmark, 2\times \mid S = 0.95) = \binom{50}{48} (0.95)^{48} (1-0.95)^{2}$

$= 0.26110$

$P(\text{data} \mid S) = C \cdot S^{\#\checkmark} (1-S)^{\#\times}$