Conditional Probability

The observation of dependant events : an area where we observe the second event(the second event occurs) based on the outcome of the first event.

EX:

> The probability of going on a run at 5am in the morning will depend entirely on whether you're a morning person or not, if you weren't there is a 0% chance of you going on that run.

Conditional probability : P(dependant condition | independent condition) = %

> The probability of the left condition based on (|) the right condition.

Total probability: assume we are checking the probability of a test of a disease P(test | disease)

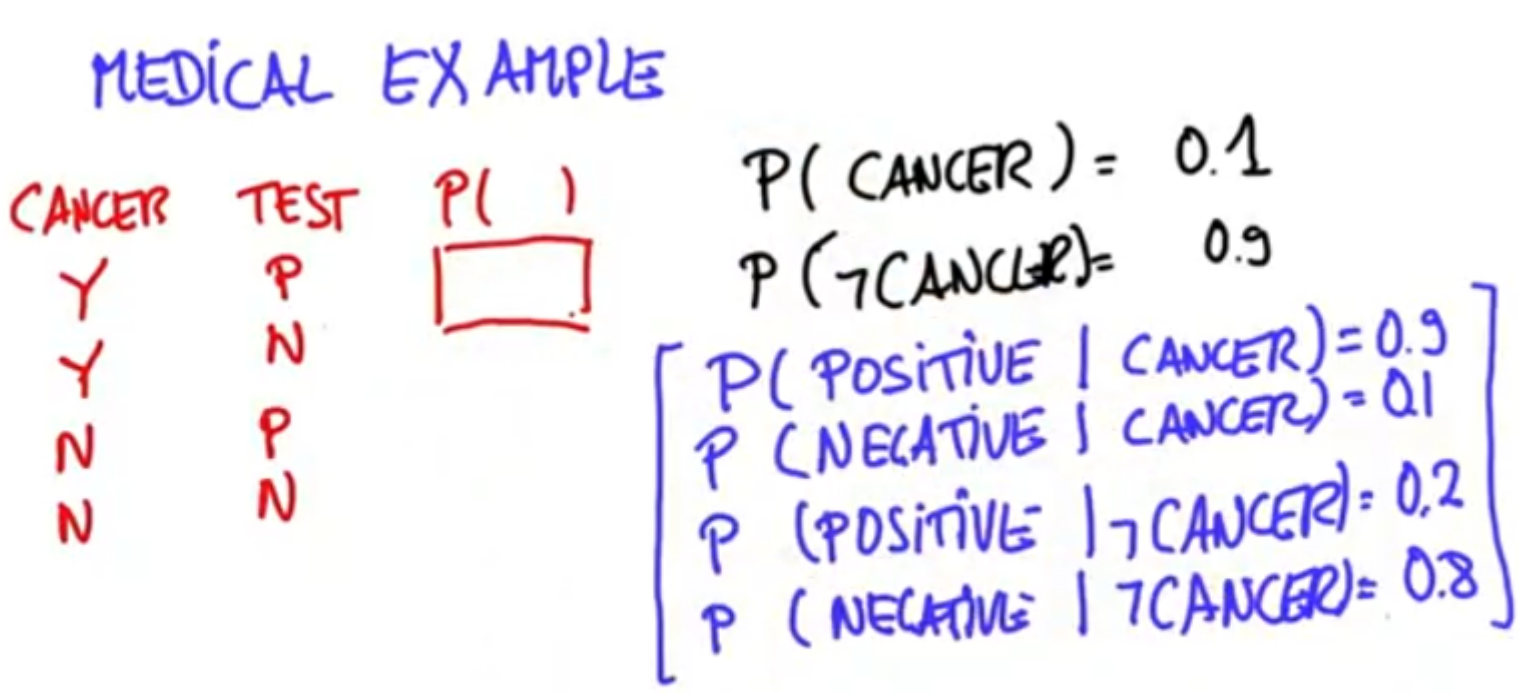
but we want the total probability of the test :

P(test) = P(test | disease) * P(disease) + P(test | | >disease) * P(>disease

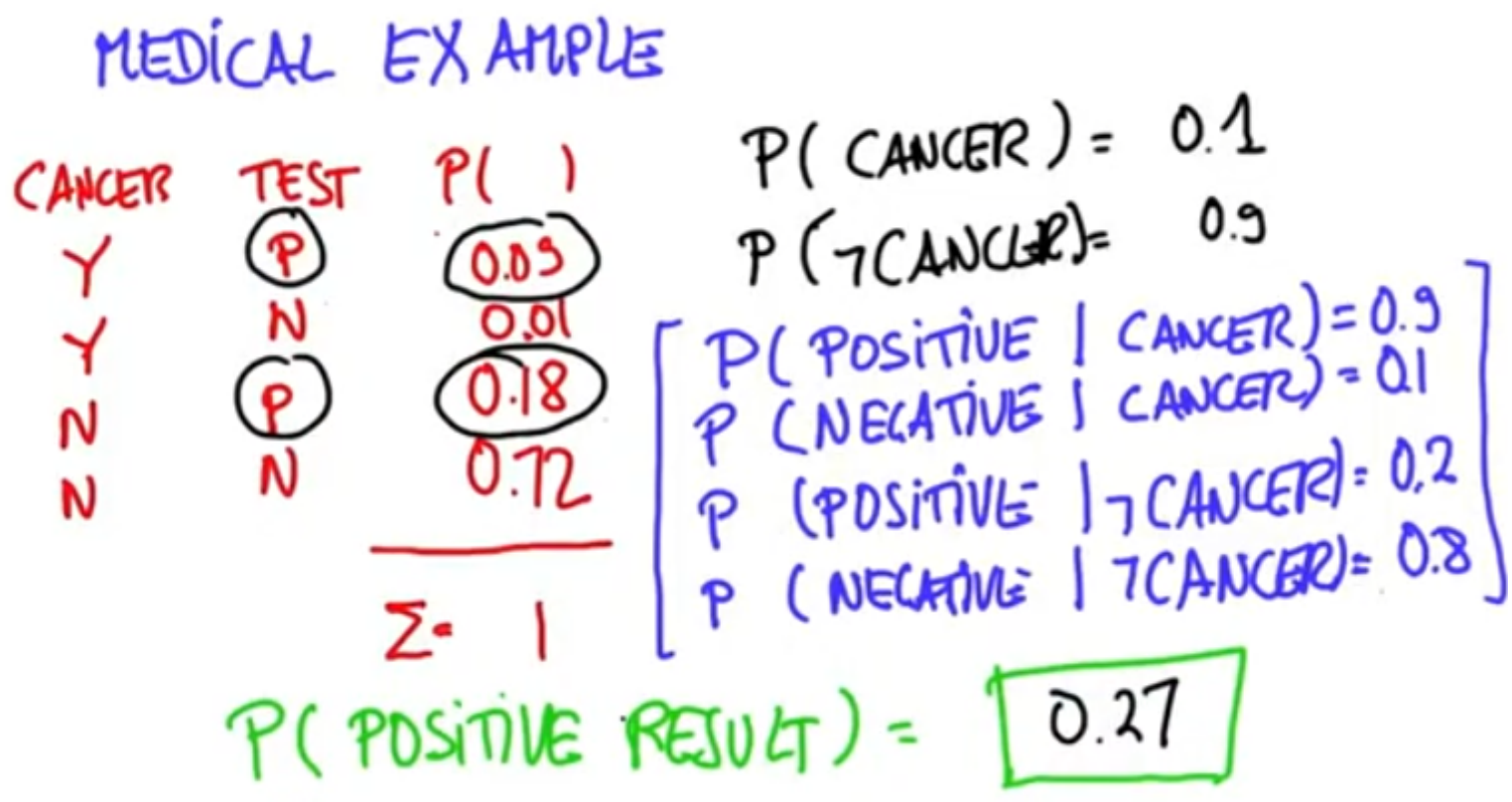
the probability of the test when disease is present + probability of test when disease is absent.

Medical Example:

trying to get the probability of a blood test based on whether the patient has cancer or not



Solution :



References: https://drive.google.com/drive/folders/125rg1z5GAz7G4dAGiWdy6WV1OZkmDtPr