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Module 2: Probability & its uses

Assignment

Assignment 2: Statistic Essential for Analytics

Question 1: In a group of 45 people, 15 are healthy and every person of the remaining 30 has either high blood pressure, a high level of cholesterol or both. If 17 have high blood pressure and 28 have high level of cholesterol:

how many people have high blood pressure and a high level of cholesterol?

If a person is selected randomly from this group, what is the probability that he/she

a) has high blood pressure (event A)?

b) has high level of cholesterol (event B)?

c) has high blood pressure and high level of cholesterol (event A and B)?

d) has either high blood pressure or high level of cholesterol (event A or B)?

Question 2: Imagine that, while in Mumbai, you also took a side trip to Goa, to pay homage to some TV show. Late one night in a hotel you meet a guy who claims to know that in the casino at the Tito's street there are two sorts of slot machines: one that pays out 10% of the time, and one that pays out 20% of the time. The two types of machines are coloured red and blue. The only problem is, the guy did not remember which colour corresponds to which kind of machine. Next day you go to the Tito's street to find out more. You find a red and a blue machine side by side. You toss a coin to decide which machine to try first; based on this you then put the coin into the red machine. It doesn't pay out. How should you update your estimate of the probability that this is the machine you're interested in? What if it had paid out - what would be your new estimate then?