Link: <http://gtribello.github.io/mathNET/bayes-theorem-problems.html>

Problem 1

You are selling a product in an area where 30 % of the people live in the city and the rest live in the suburbs. Currently 20 % of the city dwellers use your product and 10 % of the suburbanites use your product. You are presented with two new sales strategies the first will increase your market share in the suburbs to 15 %. The second will increase your market share in the city to 25 %.

Which strategy should you adopt, give reason?

What percentage of the people who own your product are city dwellers before your new sales drive?

Answer: Strategy 1 is better sand before the new sales drive 6/13 of the people who are the product are city dwellers

Problem 2

Two production lines produce the same part. Line 1 produces 1,000 parts per week of which 100 are defective. Line 2 produces 2,000 parts per week of which 150 are defective. If you choose a part randomly from the stock what is the probability it is defective? If it is defective what is the probability it was produced by line 1?

Answer: P(L1|D)= 2/5