

Bayes Theorem

Mach1: 30 wrenches / hr

Mach2: 20 wrenches / hr

Out of all produced parts:

We can SEE that 1% are defective

Out of all defective parts:

We can SEE that 50% came from mach1

And 50% came from mach2

Question:

What is the probability that a part produced by mach2 is defective = ?

~~$$\rightarrow P(\text{Mach1}) = 30/50 = 0.6$$~~

~~$$\rightarrow P(\text{Mach2}) = 20/50 = 0.4$$~~

$$\rightarrow P(\text{Defect}) = 1\%$$

~~$$\rightarrow P(\text{Mach1} | \text{Defect}) = 50\%$$~~

~~$$\rightarrow P(\text{Mach2} | \text{Defect}) = 50\%$$~~

$$\rightarrow P(\text{Defect} | \text{Mach2}) = ?$$