

1) Given information

a) 80% of emails sense or spam

b) 10% of this bank emails

The phrases free money is used.

1% of non spam emails.

80% of emails are spent. So the probability of events S and that is 0.8.

So, the probability of complements, is $1 - 0.8 = 0.2$
 Probability of not contained the phrases free money is used, here 10% or 0.1

Probability of S is 0.8 times probability of F given S is 0.1 so, 0.8 becomes 0.1.

Now the probability of S prime over here, 0.2.

Terms probability, or F given S prime is over here, that's 0.01.

Answer would be 40 out of 41 or 0.9756.

$P(S+Fn)$

notice $P(S) + P(N) = 1$

$$P(S/Fn) = \frac{P(Fn/S)P(S)}{P(Fn/S)P(S) + P(Fn/N)P(N)}$$

$$P(Fn/S) = 10\% \quad P(Fn/N) = 10$$

$$P(S/Fn) = \frac{40}{41} = 0.9756$$

(2) Given information

Sixty (60)% of new drivers have had driver education.
So, new drivers without driver education have probability 0.08 of having an accident.

Let's use categorical variable that may either be "Driver Ed" or "No Driver Ed"

	Pr accident	No accident
Driver Ed	0.6	0.95
No Driver Ed	0.4	0.92

$$P(E) / P(\text{No accident}) =$$

$$P(E) / P(\text{No accident})$$

$$= (0.95 \times 0.6)$$

$$(0.95 \times 0.6) + (0.92 \times 0.4)$$

$$= \frac{0.56}{(0.56) + (0.368)} = \frac{0.56}{0.928}$$

$$= 0.6034$$

probability of new drivers had had driver education is 0.60

$$P(A/B) = \frac{P(B/A) P(A)}{P(B)}$$

$$P(A) = P(\text{Education})$$

$$P(A) = \text{No Education}$$

$$P(B) = \text{No Accident}$$