# Baye's Law

**P(A/B)** = P(B /A) * P(A) / P(B)

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In [6]:

```
def bayes_theorem(p_a, p_b_given_a, p_b_given_not_a):
    not_a= 1-p_a
    p_b = p_b_given_a*p_a + p_b_given_not_a*not_a
    p_a_given_b= (p_b_given_a*p_a)/p_b
    return p_a_given_b

p_a=0.0002 #P(A)
p_b_given_a = 0.85 #P(B/A)

#P(B/notA)
p_b_given_not_a=0.05
result = bayes_theorem(p_a, p_b_given_a, p_b_given_not_a) #P(A/B)
print('P(A/B)=%.4f%%'%(result*100))
```

```
P(A/B)=0.3389%
```

In [ ]:

```

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