IMM - DTU

02405 Probability
2003-9-13
KKA/bfn,kka

Solution for exercise 1.4.2 in Pitman

We define the events

A The light bulb is not defect

B The light bulb is produced in city B

From the text the following probabilities are given:

$$P(A|B) = 0.99 \quad P(A^c|B) = 1 - P(A|B) = 0.01$$

$$P(B) = 1/3 \quad P(B^c) = 2/3$$

solution

$$P(A \cap B) = P(B)P(A|B) = 0.99/3 = 0.33$$