

Stochastic dependence/independence

Two exercises

1. a box with Black, Red and White balls in equal number:

$$P(B) = P(R) = P(W) = \frac{1}{3}.$$

Let us define other events, based on the the previous ones:

$$E_1 = W \cup R$$

$$E_2 = W \cup B$$

Question 1: tell is E_1 and E_2 and independent or not (in probability).

2. Lets add Yellow balls into the box, in equal number of those of each other color.

$$P(B) = P(R) = P(W) = P(Y) = \frac{1}{4}$$

Question 2: tell is E_1 and E_2 , defined as above, are independent or not (in probability).