

Assignment 3

Kotikalapudi Karthik (cs21btech11030)

Abstract—This document contains the solution to Question 6 of Exercise 15.1 of Chapter 15 (Probability) in the NCERT Class 10.

NCERT class 10

Exercise 15.1 Q6

A bag contains lemon flavoured candies only. Malini takes out one candy without looking into the bag. What is probability that she takes out

- 1) an orange flavoured candy?
- 2) a lemon flavoured candy?

Solution:

Let's denote the solution of the outcome by a random variable $X \in \{0, 1\}$, where $X = 0$ denotes the candy is an orange flavoured candy and $X = 1$ denotes the candy is a lemon flavoured candy.

Let n denote the total number of lemon flavoured candies in the bag.

Probability that she takes out an orange flavoured candy is:

$$\Pr(X = 0) = \frac{0}{n} \quad (1)$$

$$= 0 \quad (2)$$

Probability that she takes out an orange flavoured candy is:

$$\Pr(X = 1) = \frac{n}{n} \quad (3)$$

$$= 1 \quad (4)$$

Since these events are mutually exclusive and exhaustive, one can also notice that

$$\Pr(X = 0) + \Pr(X = 1) = 1 \quad (5)$$