Assignment 5

Rahul Ramachandran (cs21btech11049)

Abstract—**This document contains the solution for Assignment 5 (NCERT Class 11 Chapter 16 Example 3)**

16 E3 [NCERT 11] : In each of the following experiments specify appropriate sample space:

(i) A boy has a one rupee coin, a 2 rupee coin and a 5 rupee coin in his pocket. He takes out two coins out of his pocket, one after the other.

(ii) A person is noting down the number of accidents along a busy highway during a year.

Solution:

(i) Let the variables A, B and C represent the drawing of the ₹ 1 coin, the ₹ 2 coin and the ₹ 5 coin respectively. If event X is followed by event Y, let the cumulative event be represented by XY.

The first event in this case can either be A, B or C. If the first event is A, it can only be followed by B or C. Similarly, B can only be followed by A or C, and C can only be followed by A or B.

Therefore, the sample space S in this case is represented by:

$$S = \{AB, AC, BA, BC, CA, CB\} \quad (1)$$

(ii) The number of accidents during a year can be $0, 1, 2 \ldots$ since the number of accidents is a non-negative integer.

Therefore, the sample space S in this case is represented by:

$$S = \mathbb{Z}_{\geq 0} \quad (2)$$