CS 206 - Introduction to Discrete Structures II

September 28, 2016

Homework: 3	Instructor: Morteza Monemizadeh
Due Date: Wednesday, October 5 (12:10 pm)	TA: Hareesh Ravi

Assignment 1:

Consider an urn containing 12 balls, of which 8 are white.

1. A sample of size 4 is to be drawn with replacement. What is the conditional probability that the first and third balls drawn will be white given that the sample drawn contains exactly 3 white balls?

2. A sample of size 4 is to be drawn without replacement. What is the conditional probability that the first and third balls drawn will be white given that the sample drawn contains exactly 3 white balls?

Assignment 2:

A total of 46 percent of the voters in a certain city classify themselves as Independents, whereas 30 percent classify themselves as Liberals and 24 percent say that they are Conservatives. In a recent local election, 35 percent of the Independents, 62 percent of the Liberals, and 58 percent of the Conservatives voted. A voter is chosen at random. Given that this person voted in the local election, what is the probability that he/she is

1. an Independent?

2. a Liberal?

3. a Conservative?

4. What fraction of voters participated in the local election?

Assignment 3:

A and B alternate rolling a pair of dice, stopping either when A rolls the sum 9 or when B rolls the sum 6. Assuming that A rolls first, find the probability that the final roll is made by A.