Bookmarks

- Module 1: The Basics of R and Introduction to the Course
  - **Welcome to the Course**
  - **Introduction to R**
  - **Introductory Lecture**
    Finger Exercises due Oct 03, 2016 at 05:00 IST
  - **Module 1: Homework**
    Homework due Sep 26, 2016 at 05:00 IST
- Entrance Survey
- **Module 2: Fundamentals of Probability, Random Variables, Distributions, and Joint Distributions**
- Exit Survey

Bookmark

Question 1

(1/1 point)

Building on the example given in class, suppose there are 5 candidates for the Republican nomination. The probabilities that each of the 5 candidates will win the Republican nomination are given by:

- Candidate 1: 0.3
- Candidate 2: 0.2
- Candidate 3: 0.2
- Candidate 4: 0.1
- Candidate 5: 0.2

Suppose that conditional on winning the Republican nomination, the probability that each of these candidates will win the general election is given by:

- Candidate 1: 0.5
- Candidate 2: 0.1

• Candidate 3: 0.2

• Candidate 4: 0.1

• Candidate 5: 0.1

What is the probability that candidate 3 wins the general election? (Please put your answer to 2 decimal places. For example, if the correct answer is 0.672, please input 0.67)

0.04 ✔ **Answer:** 0.04

0.04

EXPLANATION

The probability that candidate 3 wins the general election is the probability that candidate 3 wins the republican nomination multiplied by the probability that he or she wins the general election conditional on having won the nomination. This is 0.2 * 0.2 = 0.04 or 4%.

You have used 1 of 2 submissions

Question 2

(1/1 point)

Using the same example as above, what is the probability that a Republican candidates wins the general election? (Please put your answer to 2 decimal places. For example, if the correct answer is 0.672, please input 0.67)

0.24

✔ **Answer:** 0.24

0.24

EXPLANATION

To calculate the probability that a Republican candidate will win the general election, we do the following calculation: (0.3 * 0.5) + (0.2 * 0.1) + (0.2 * 0.2) + (0.1 * 0.1) + (0.2 * 0.1) = 0.24 or 24%.

P(R) = P(c1)*P(R|c1) + P(c2)*P(R|c2) + P(c3)*P(R|c3)+ P(c4)*P(R|c4) + P(c5)*P(R|c5)

You have used 2 of 2 submissions