IE-231 In-Class Activity - Week 2

Due Date Feb 21, 2017, 14:00

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This is a graded in-class assignment. Show all your work in R Markdown files. Submit compiled HTML files only.

Question 1

Suppose drawing two cards from a deck and tossing two coins. Answer the following questions.

  a) What is the experiment?

  b) What is "getting two heads and two aces or one head one tail one queen one king"? Pick one (Event / Outcome / Sample Space)

  c) Give an example of two mutually exclusive events.

  d) What is the probability of getting one head and one tail (in any order) and getting two Jacks?

  e) How many different outcomes can there be? Assume ordering is important (e.g. HT and TH are different outcomes).

Question 2

In how many ways can you arrange the letters of "COMPUTERLAB"?

  a) Any order.
  b) Vowels together?
  c) Vowels in alphabetical order?
  d) There should be no consecutive vowels?

Question 3

In how many ways can you arrange the letters of "HETEROSKEDASTICITY"?

  a) Any order.
  b) Vowels together?
  c) Vowels in alphabetical order?
  d) There should be no consecutive vowels?

Question 4

Suppose you are putting the top 16 football teams in 4 groups evenly (each group should consist of 4 teams). In how many different ways can you arrange the teams?

Question 5

There are 20 people; 10 from Ankara, 10 from Istanbul.

a) Suppose you want to form a group of 5 people with at least 1 person from Ankara and Istanbul. In how many ways can you form such a group?

b) In how many ways can you form a group of 3 people from Istanbul and 4 people from Ankara?