

ECE 313 (Section G)**In-Class Activity 1**

Write your name and NetID here:

Class Activity 1

Consider a bag with one set of all alphabets, i.e., a to z in lowercase. Letters are picked from the set without replacement

1. What is the probability that the first two letters are vowels?
2. What is the probability that the first two letters are a combination of vowel and consonant?
3. What is the probability that the first three letters form a palindrome?

How would your answers change if the bag contains two sets of alphabets?

Class Activity 2

Of 40 students in a class,

12 do not know Python

15 know both Python and Matlab

5/9 of students who do not know Matlab, use Windows

8 students use Windows and know both Python and Matlab

7 students do not know Matlab and do not use Windows, but know Python

2/3 of the students who (do not know Python and do not use Windows), know Matlab

Questions

Let's pick two students (A and B) from 40 students and assign them to a group to do programming assignments. Compute probabilities that:

1. Both students know Python and Matlab
2. Both students know Python
3. Both students do not know both (Matlab and Python)
4. Student A knows a language (i.e., Python or Matlab) that Student B does not know
5. Both students use Windows
6. Both students use Windows and know Python

Show your work. (Use a Karnaugh map. Fill in numbers or variables, trying to minimize the number of variables and equations needed.)