Discussion

Thursday, April 1, 2021   3:21 PM

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0   First Day: Introduction and Logistics

0.1   Logistics

1. Instructor: Dr. Hung Nguyen

2. Teaching Assistant: Osman Akar

3. **Discussion Time**: Th 2-2.50am via Zoom. Here are the meeting details
   Zoom link: https://ucla.zoom.us/j/99798447193?pwd=dElDSXBVOTd3cFpTSWZ2RFBVcnNQUT09
   Meeting ID: 997 9844 7193, Passcode: 037401

4. **Office Hours:** You are most welcomed to attend the office hours, even though you do not have questions but you want to see other student's questions, or you just want to chat in general. I was also UCLA undergrad and I have spent my 5 years here, so I have quite an experience of being a math major. **M 8-9 am**
   - OH for 170E: ~~2:50-3:50~~pm via zoom (right after the class). Here is the zoom meeting details
     Meeting Link: https://ucla.zoom.us/j/91372739648?pwd=QVlNWFNpQkVHcXVrOVQ2QzluV0l3Zz09
     Meeting ID: 913 7273 9648, Passcode: 656222
   - My Open OH : Tuesday 5-6pm via zoom.
     Meeting Link: https://ucla.zoom.us/j/97532843825?pwd=RldkOElSd25Lc0pYT3R1NTgrbDBKQT09
     Meeting ID: 975 3284 3825, Passcode: 896714

     To my understanding, **Oper Office Hour** is the new name for **SMC**. You can get more information here: UCLA Math Open Office Hours.

   - I understand that many of you are in different timezones. So if you cannot make any of my OHs, you can schedule an OH with me instead. I will try to be as accommodating as possible. Note that in this case I will email the whole class to notify that I will be holding an additional OH.

5. Email: oak@math.ucla.edu.

6. Email Policy: Please do not send me math questions via email, instead come to my office hours. It is quite time consuming to answer math questions via email.

7. Lecture notes: I will upload the written notes to CCLE under the corresponding week.

8. Recorded lecture videos: I will record and upload the lecture video to CCLE, **unless there is a significant drop in attendance**. I do not want to lecture to an empty class, and our discussions will be interactive with question pools.

9. Useful Links (Free materials UCLA offers):

   (a) MATLAB is free for UCLA Students: https://softwarecentral.ucla.edu/matlab-getmatlab

   (b) Microsoft Office is also free: https://www.it.ucla.edu/news/microsoft-office-proplus

   (c) You can read *The Economist* magazine for free if you are on UCLA network. If not, you can use UCLA VPN. See here for more info https://www.anderson.ucla.edu/rosenfeld-library/databases/business-databases-by-name/economist. Note that being on UCLA network is also useful to download articles from a number of publishers and also from UCLA library (NOTE: for some reason this free access does not seem to be working for a couple of weeks, but I hope they will fix it soon).

Q: What is the probability? It is a method to quantify the possibility of

Q: What is the probability? It is a method to quantify the possibility of occurance of events.

E: Assume we have a class of 50 students.

	Boys	Girls
Blue	5	10
Green	15	20

Assume that the teacher chooses one student (S) uniformly random (meaning each student has the same chance to be chosen)

Q1 what is the probability that S is a boy? → $P(A)$
Q2   "   "   "   "   "   S has green eyes? → $P(b)$

$A = \{ S \text{ is a boy} \}$ $B = \{ S \text{ has green eyes} \}$

	Boys	Girls
Blue	5	10
Green	15	20

events/sets

	Boys	Girls
Blue	5	10
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$$P(A) = \frac{20}{50}$$

$$P(B) = \frac{35}{50}$$

Q3: What is the probability that "S is a boy" and "S has green eyes"?

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$$P(A \cap B) = \frac{15}{50}$$

	Boys	Girls
Blue	5	10
Green	15	20

Q4: What is the probability that either "S is a boy" or "S has green eyes"?

$$P(A \cup B) = \frac{40}{50}$$

	Boys	Girls
Blue	5	10
Green	15	20

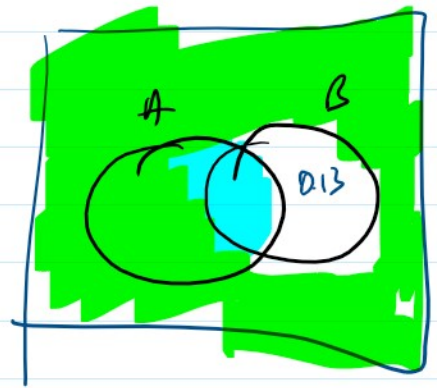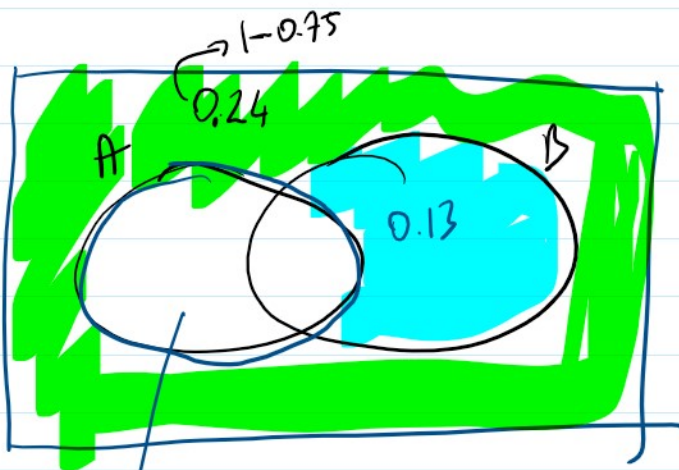**Q5**: What is the probability that S is "not" a boy?

$$P(A^c) = 1 - P(A) = 1 - \frac{20}{50} = \frac{30}{50}$$

$\hookrightarrow A' = A^c = $ Complement of A

(EX 1.17)   Given $P(A \cup B) = 0.76$ $P(A \cup B') = 0.87$, find $P(A)$

A) 0.24   B) 0.37   C) 0.50   (D) 0.63)   E) 0.77

-1   1-0.75

$\rightarrow 1-0.75$

0.24

A

B

0.13

$\rightarrow P(A) = 1 - 0.24 - 0.13 = 0.63$

A

B

0.13