May 2020

OfficeHours_IS4_20151116_Seg01.pdf

Setting: office hours. Tutoring a student from a different class.
Participants: IS4 (male), S1 (female)

0:00
xxx IS4: the homework is due today.
xxx ((shows phone she reads something))
xxx S1: what is homework five?
xxx IS4: you didn't do?
xxx S1: hm:
xxx I didn't know this part.
xxx and I have some delayed homework,
xxx IS4: ah ok
xxx S1: so- (.)
xxx did professor (taught) this?
xxx during class?
xxx IS4: no.
xxx I- I didn't go to class so I don't know.
xxx ((looks at phone))
xxx so ((unclear))?
xxx S1: ((unclear))
xxx so ((unclear)) section 3.5
xxx IS4: 3.5 4.2 4.4.
xxx S1: 4.2?=
xxx IS4: =yea
xxx S1: there's no 4.2 in our homework assignment.
xxx IS4: ((unclear))
xxx S1: [you're 210 right ((unclear))>
xxx IS4: [yea but so so no-
xxx I'm not TA for this.
xxx ((unclear))
xxx S1: you're ta for this (.) course ((shows phone))?
xxx IS4: ((shakes head))
xxx S1: o:h
xxx IS4: I am TA of Dr. ((name))'s class.
xxx you have ((unclear)).=
xxx S1: =yea
xxx so you're not TA of 210?
xxx IS4: I am TA of 210 but in another section.

xxx the class of another professor.
xxx S1: oh I see.
xxx so you're not able to help me with the homework
xxx (because you're not familiar to this)?
xxx IS4: yea but but if you have some-
xxx I can do.
xxx I (think the contents of the class are the same).=
xxx S1: =oh ok
xxx IS4: yea so-
xxx if- if our (homework) is- is the same I can help you.
xxx S1: o:h
xxx so I have a question about 4.4,
xxx IS4: 4.4?
xxx it's about (mark of- mark off chain)?
xxx S1: yea
xxx actually I have no idea what is going with this um-
xxx ((checks something))
xxx could you help me wi:th-
xxx IS4: do you know what what (mark off chain) is?
xxx S1: <yea I have some idea but>-
xxx so do you help me with-
xxx could you help me with the question 10A?
xxx IS4: ((reads))
3:00
xxx yea: ↑so
xxx do you know the meaning of the (matrix)?
xxx S1: no
xxx IS4: so markoff chain is-
xxx I think uh do you remember the-
xxx do you remember the first-
xxx ((unclear))
xxx S1: =yea
xxx IS4: so this matrix- this matrix
xxx is very similar to this one.=
xxx S1: =mhm
xxx IS4: so
xxx in this-
xxx in <u>this</u> matrix it talks about the <u>probability</u> that
xxx if <u>today</u> is sunny.
xxx then the probability that <u>tomorrow</u> is sunny is 3.04.=
xxx S1: =yea yea

xxx IS4: and the probability of ((unclear)).
xxx so it’s quite the same.
xxx so you can say now-
xxx in this scenario you can say there are two kind of
xxx weather-
xxx two kind of weather.
xxx so you can-
xxx you can measure there are six kind of (weather)
xxx cloudy, rainy, or,=
xxx S1: =mhm
xxx IS4: snowy,
xxx like this so-
INR this matrix gives that if tomorrow is ((unclear)) X
INR in the- probability is first condition-
INR the probability of tomorrow is in the first condition
INR is 1 out of 3.
INR the probi- tomorrow the probability in the (second
INR condition)
xxx is 2 over 3.
xxx 2 over 3.
xxx and-
xxx so it's- ((long pause))
xxx you know this?=
xxx S1: =mhm
xxx IS4: yea
xxx so now if today is sunny-
xxx and tomorrow- the probability that tomorrow is sunny-
xxx (the probability is 3 over)=
xxx S1: =mhm
xxx IS4: so
xxx if today is sunny the probability that tomorrow is
xxx sunny is 1 over 3.=
xxx S1: =mhm
xxx IS4: and today is sunny the probability that tomorrow is
xxx cloudy is 2 over three.
xxx S1: mhm
xxx IS4: and now we have (more than two kind of weather).
xxx so you can assume that <(sunny cloudy and)>
xxx raining.
xxx the probability that raining is is 0.=
xxx S1: =mhm

xxx IS4: so-
xxx every-
xxx every entry in this ((unclear)).
xxx gives the probability that u:m
xxx in the condition that today-
xxx is in some kind of condition.
xxx and the probability that
xxx tomorrow it will go into another-
xxx the probability will go to another kind of situation.=
xxx S1: =mhm
xxx IS4: the probability (of this).=
xxx S1: =↓mhm
TTF IS4: so- so me- this-
TTF ((unclear))
xxx S1: mhm
xxx so is it clear?=
xxx S1: =yea
6:00
xxx IS4: yea so this matrix gives-
xxx gives uh-
xxx gives a transition-
xxx gives a transition between the current state
xxx and the next state.=
xxx S1: =mhm
xxx IS4: but so
xxx do you know how to describe the current state?
xxx ((S1 shakes head))
xxx we use the column method to describe the current
xxx state.
xxx ((unclear))
xxx this A is this- i- is this.
xxx the P is the current state.
xxx current state is the column that ((unclear)) you know-
xxx there are 6-
xxx if there are you know-
xxx there are 6 co- co- possible states here.
xxx so we're looking for column-
xxx column ((unclear)) 1 2 3 4 5 6.
xxx 6=
xxx S1: =ok
xxx IS4: 6 values.=

xxx S1: =mhm
xxx IS4: every value-
xxx every value-
xxx every value of this.
xxx gives a- (gives) meanings- (gives) meaning-
xxx gives meaning of the probability
xxx to be in a (.2) in a (corresponding)
xxx state.=
xxx S1: >=mhm<
xxx IS4: so if this ((unclear))
xxx that means the probability for this to be in the
xxx ((unclear)).=
xxx S1: =mhm
xxx IS4: and if it is .9,
xxx that means the probability being fourth,
xxx fourth state is .9.=
xxx S1: =ok
xxx IS4: because it- it-
xxx because the- the probability distribution
xxx is a probability so-
xxx the sums of the six value should be one.=
xxx S1: =mhm
xxx IS4: now you get it?=
xxx S1: =mhm
xxx IS4: so that means (others) are zero.
xxx so the probability to be in (second) third
xxx fifth and sixth are all (zero).=
xxx S1: =mhm
xxx IS4: ((unclear)) possible
xxx so the the (column) is our ((unclear))-
xxx it um how measure the (current state).
xxx so we-
xxx so
xxx (we have known the current state).
xxx and we know this matrix.
xxx we can calculate the-
xxx we can calculate the vector for the next stage.
xxx because every stage is described with the-
xxx column vector.
xxx S1: (.) ↓mm
xxx IS4: so-

xxx S1: ok
xxx IS4: can you get it?=
xxx S1: =mhm
xxx IS4: so you know m-
xxx so that means we can st-
xxx we can ((unclear)) this ((unclear))
xxx (the case the case that means)-
xxx ((unclear)) next stage next stage next stage
xxx until ((unclear)).
xxx (It can be calculate using this one).=
xxx S1: =ok
xxx IS4: it is ((unclear: math equation))
xxx multiply P.=
xxx S1: =mhm
xxx IS4: so this is the (matrix) yea
xxx and now-
xxx you -you wanna how to solve-
xxx do you know this (stable distribution)?
xxx
9:00
xxx S1: >I think so<.
xxx IS4: the stable- the stable distribution is that
xxx this vector-
xxx after many- after many times (multiplication)
xxx this P (will) become stable.
xxx S1: [yea if they ((unclear))
xxx IS4: [doesn't change any more
xxx yea you got it.
xxx so how-
xxx so-
xxx how can you get ((this))..
xxx so you use this equation
xxx this ((unclear))-
xxx this stable this ((unclear)).=
xxx S1: =mhm
xxx IS4: this ((unclear)) stable distribution.
xxx P star (equals A multiply P star).
xxx I think this is obvious because-
xxx you know-
xxx because it is stable.
xxx (where stable)

xxx (the current state is always)
xxx (be equal to next state).=
xxx S1: =uhuh
xxx IS4: ((unclear))
xxx so now you can-
xxx you can-
xxx you- you just-
xxx S1: use that.=
xxx IS4: =yea
xxx P (star p star in in this) ((unclear))
xxx has 6- it has 6 (elements).
xxx P star.
xxx ok so you have P1 P2 P3 P4 P5 P6.=
xxx S1: =mhm
xxx IS4: (so it is still P star you want to know).
xxx ((incomprehensible))
xxx you can calculate the-
xxx and-
xxx [A plus
xxx S1: [this is a right
xxx IS4: yea this is A.=
xxx S1: =ok
xxx IS4: put this=
xxx S1: =mhm
xxx IS4: P1 equal P6
xxx so I think it is uh-
xxx it is system of equations you have.
xxx and you know how to solve this
xxx (from the chapter).
xxx S1: can you show me?
xxx IS4: u:m this-
xxx I think you should read the book to solve
xxx the matrix problems but-
xxx (no no no).
xxx (solve the system of equations)=
xxx S1: =mhm
xxx IS4: so-
xxx I think you should read-
xxx ((flips book))
xxx read the-
xxx read the chapter-

xxx chapter 3.=
xxx S1: =↓mm
xxx IS4: so this uh-
xxx systems of (linear) equations.
xxx it has 6 ((unclear)) and 6 equations.
xxx and you can use the methods in this (chapter)=
xxx S1: =in this chapter.
xxx to solve this?=
xxx IS4: =yea
xxx to solve this.
xxx so yeah that's how you can the (stable) distribution.
xxx S1: I see I got it thank you!
xxx IS4: so do you have any-
xxx S1: no that's it.
xxx IS4: is this yours ((the pencil))?
xxx S1: no.