

CS 70 离散数学 和 概率论

HW 00

春季 2026 Sinclair, Song

Due: 星期六, 1/24, 4:00PM

GraceperioduntilSaturday, 1/24, 6:00PM

Remember to show your work for all problems!

Sundry

Before you start writing your final homework submission, state briefly how you worked on it.

Who

else did you work with? List names and email addresses.

(In case of homework party, you can just describe the group.)

1 Administrivia

(a)

Make sure you are on the course Ed (for Q&A) and Gradescope (for submitting homeworks, including this one).

Find and familiarize yourself with the course website.

What is its home-

page's URL?

(b) Read the policies page on the course website.

(i) What is the breakdown of how your grade is calculated?

(ii) Is there an o-homework option?

(iii) What is the attendance policy for discussions?

(iv) When are homeworks released, 和 when are they due? When are self grades 对于 each

homework due?

(v) How many "drops" do you get for homeworks?

How many mini-vitamins will contribute to your grade?

(vi) When is the midterm? When is the final?

(vii)

What percentage score is needed to earn full credit on a homework?

2 Course Policies

Go to the course website 和 read the course policies carefully. Leave a followup on Ed 如果 you have any questions.

Are the following situations violations of course policy?

Write "Yes" 或 "No",

and a short explanation for each.

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(a) Alice 和 Bob work on a 题目 in a study group. They write up a 解答 together 和

submit it, noting on their submission that they wrote up their homework answer together.

(b)

Carol goes to a homework party and listens to Dan describe his approach to a problem on the board, taking notes in the process. She writes up her 作业 submission from her notes,

crediting Dan.

(c)

Erin comes across a proof that is part of a homework problem while studying course material.

She reads it 和 那么, after she has understood it, writes her own 解答 using the same approach. She submits the homework with a citation to the website.

(d) Frank is having trouble with his 作业 和 asks Grace 对于 help. Grace lets Frank look

at her written 解答. Frank copies it onto his notebook 和 uses the copy as a reference to

writeandsubmitthishomework,creditingGrace.

(e) Heidi has completed her 作业 using LATEX. Her friend Irene has been working on a 作业 题目 对于 hours, 和 asks Heidi 对于 help. Heidi sends Irene her PDF 解答,

andIreneusesittowriteherownsolutionwithacitationtoHeidi.

(f) Joe found 作业 solutions before they were officially released, 和 every time he got stuck, he looked at the solutions 对于 a 提示. He 那么 cited the solutions as part of his submission.

(g) Kai is struggling with one of their 作业 problems, 所以 they take a screenshot of the problem and ask ChatGPT to solve it for them.

3 Use of Ed

Ed is incredibly useful 对于 Q&A in such a large-scale class.

We will use Ed 对所有 important announcements. You should check it frequently. We also highly encourage you to use Ed to ask questions and answer questions from your fellow students.

(a) Read the Ed Etiquette 节 of the course policies 和 explain what is wrong with the following hypothetical student 问题: "Can someone explain the 证明 of 定理 XYZ tome?" (Assume Theorem XYZ is a complicated concept.)

(b) When are the weekly posts released? Are they required reading?

(c)

If you have a question or concern not directly related to the course content, where should you direct it?

4 Academic Integrity

Please write or type out the following pledge in print, and sign it.

I pledge to uphold the university's honor code:

to act with honesty, integrity, and respect for others, including their work.

By signing, I ensure that all written homework I submit will be in my own words, that I will acknowledge any collaboration 或 help received, and that I will neither give nor receive help on any examinations.

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5 Propositional Practice

In parts (a) - (b), convert the English sentences into propositional logic.

In parts (c) - (d), convert the

Note 1

propositions into English. 对于 parts (b) 和 (d), use the notation $a|b$ to 表示 the statement "a divides b", and use the notation $P(x)$ to denote the statement "x is a prime number".

(a) For every real number k , there is a unique real solution to $x^3 = k$.

(b) 如果 p is a prime number, then for any two natural numbers a and b , 如果 p doesn't divide a and p divides ab , 那么 p divides b .

(c) $(\forall x, y \in \mathbb{R}) [(xy=0) \iff ((x=0) \vee (y=0))]$

(d) $\neg((\forall y \in \mathbb{N}) [(\forall x \in \mathbb{N}) [(x > y) \iff ((y|x) \vee P(x))]])]$

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