

Introduction to Computer Architecture

Assignment 2

Question 25 Compilation

Of millions of advice you've been told, the one I prefer is enjoy being you.

I hope you really enjoyed the class (at least for some moments) so far. You decided to study Computer Architecture with me among several instructors. I truly appreciate your trust and your continuing support, understanding, tolerance, and cooperation. Ever since we met, I keep working on how to provide you with a satisfactory learning experience in return.

For almost all previous editions of this course, an assignment question sought to solicit thoughts and suggestions from the participants. For example, do you gradually understand strategies or things from different perspectives and weigh their tradeoffs? What do you think is the real challenge for you to learn this course? Do you consider interactions in class helpful? What held you back when you were trying to ask or answer questions in class? What suggestions (for better learning this course) would you like to provide to other students? What help or assistance would like from me or other students? All their [thoughtful and constructive feedback](#) has encouraged us toward a more rewarding computer architecture class.

This time, I would like you to introspect beyond this course. Taking a course should be rewarding in many possible ways. As we discussed in the first lecture session, even if you may barely practice computer architecture principles after the class ends, if whatever you learn through this class---whether it be computer architecture per se, a philosophy it implies, a study tip or inspirational quote we share, or a new friend you know---keeps driving you toward your greater self, this course fulfills its mission.

In particular, you are highly expected to develop a clear vision and be determined to strive for it. Most students in the computer architecture class are junior. The third year cannot be more decisive for your future. If you aim to work in an IT company after graduation, start practicing skills that help you ace the interview. If you plan to pursue a higher degree, join a research lab to cultivate research experience and application materials. If you have not decided, do both if your time and energy permit, see which one you really prefer. Try to make your decision based on your own goal and experience. Work with people who keep your interest and passion alive. It is really, really important to identify a right role model to emulate and learn from. It is also highly decisive to focus on what really is essential, especially given that [some of constantly emerging paradigms might turn into hypes and fade away](#). Stick to golden rules that should be objective during the selection. It should not be simply about what one claims to be or what one claims others less so. "See the world not as it is, but as it

should be.” Think of the proverb “shallow brooks babble loudest, still waters run deep” once in a while. (Or as sg put it: “shallow water hualahuala, deep water kckc.”) In return, be part of the initiative that motivates yourself and people around you. Meanwhile, if you ever consider assistance from me as possibly helpful, whether course related or beyond, never hesitate to reach out. As I proudly claim on my webpage, I am always proud to be part of the journey for someone to excel. And I am pretty sure that I would also love to be part of yours as well.

???Therefore, with this question, I would like you to share your thoughts on your goal and plan. For example, what is your goal after graduation? What is your plan to achieve that goal and what challenges might be involved? How do you manage to be motivated and determined? What helpful advices or suggestions did you get from senior students and professors? What suggestions would you like to offer peers with similar goals? Or, it is possible that you are still finding your goals. Don’t rush and take your time. Being at such a young age, you have infinite possibilities to live your dreams. “Commit to something and commit hard. Doesn’t matter if you switch later. It’s easier to prove yourself if you’ve had to do it once before.”

“Where are you? Here.
What time is it? Now.
What are you? This moment.”

“Old urges continue to arise, but urges do not matter; only actions do.”
“A warrior is as a warrior does.”

“While they are deciding, make even more art.”

So pleeeeeease, live a life you deeply enjoy and will remember.

If not now, when?

00

Thanks for sharing your thoughts and for all your suggestions and acknowledgements.

I would like to share with you this anonymous compilation of all the collected feedback. It is a perfect way to understand more of our peers and resonate with them. “If you don’t walk out, you will think that this is the whole world.”

For 2020 Computer Architecture, I took much time to write replies to all 56 compiled feedback. The first one went for the first mx handing in Q25. This time, however, I did not manage to do that again. Yet I am always happy to discuss with you about your study and career plans. Feel free to reach out whenever you’d like to talk.

Of millions of advice you’ve been told, the one I prefer is enjoy being you.

Embrace life’s big adventure and devote to enjoy the best things in life.

BE A LIGHT, SHINE YOUR WAY

Wish you a joyful ride on every adventure you take!

01

As for me, I truly appreciate the chance to study the course with kai ge. I have poor knowledge about hardware lessons, because I hardly understand the knowledge of Computer Organization and Design. I had a struggle to cover the knowledge to make it through the final exam, with a poor grading of course.

However, I found it quite useful to listen to the class in Computer Architecture lessons. With the carefully selected homework, I can also review the essential knowledge that I had to know. The atmosphere in the study group is also so good to help me get involved in study.

My goal is not to devote into IT career, because I think I am not suitable for the coding job. I only want to graduate successfully and get to another job. I saw hope in this class, which made me think I was not that useless and stupid.

What I suggest is that if it is possible to connect the labs with the theory more tightly? I always feel confused with the labs, which seems completely unconnected with the knowledge I learned in class. What's more, I hope we can get to learn about how to do the labs step by step, instead of learning to run before learning to walk. This is the biggest problem I faced ever since I have started learning hardware lessons. I truly hope the hardware lessons can get better and better.

Thank you for all your efforts to make us have fun studying this lesson. Wish you all the best wishes!

02

It's my fourth year in the college now. I'm going to start my graduate life in Zhejiang University next year. In fact, I'm not sure if I will continue doing research in the rest of my life. I went to graduate school to improve my competence and find a good job. But if I'm really good at doing research, I will take it as part of my life.

It's not easy to live in the big city, since my family is in the countryside and can not give me much help. I'm not sure how much I can get after my graduation. But I know if I want to get a good job, I need to learn hard to improve my professional knowledge and coding ability. And I'm solving questions on LeetCode to improve them. And I'm looking for the internship in an IT company recently.

About this course, in fact, I don't like it. Writing hardware code is really difficult, and spend too much time to debug them. The logic of hardware coding is really different from software coding. I'm not going to do the related works of hardware, so I don't think I need to learn it very well.

03

I write this in a very complicated mood. As you can see, I am a senior, and this is the second time I have learned Computer Architect. Looking back on the whole four years of college, it is a little different from what I thought before. I thought I would devote myself to scientific research, but in the selection and study of many courses, I gradually felt that I would be more satisfied to write some visible results in practice than pure theory. What may be hard to believe is that I myself is the group leader of [anonymized] group, however, I have given it up since a year ago.

After a tiring autumn recruitment, just now I have received 4 offers from 4 different companies. After making the decision, I finally went to a company that studied network protocols. I think it as a new start, and hope to learn something I can't get from ZJU campus. I just have several courses left. In my leisure time I take the initiative to observe those excellent large-scale projects. To tell the truth, my programming level is actually not as good as others. With some skills not acquired in the first three years of college, I hope to catch up with others in the remaining limited time. Talking of suggestions, I think the most important thing is to ask your heart and clarify your path. No matter what your current situation is, as long as you know where and how you should go in the future, and then make efforts to realize it, you will have good results. I thought a lot about writing these words. I will keep this answer and supplement it one day in the future to see if my guess at that time is the same as that in the past.

Finally, I would like to thank Brother Kai for this significant assignment. I sincerely wish you to find your beloved girlfriend as soon as possible!

04

Actually, I haven't got many ideas about what I'm going to do. Since it seems that I learned so many courses only to get marks rather than applying the knowledge into reality and making improvement, which are what the sophisticated devote into.

I have considered about going abroad. I took the TOELF exam last week, and I'm gonna to get a good GRE grade in the winter vacation. It is admitted that the education system in the western country is better and well organized, but in fact many students go abroad for better salary and relatively light workload.

For me, I want to do some actual work that could really be beneficial to others. As I mention before, I need to find the field that I can truly be absorbed in. So, in this winter, I would also try to enter a research group and participate in certain project.

05

感谢凯哥能给我们回答这样一个奇妙问题的机会。

首先谈谈关于体系结构这门课程吧。毕竟作为硬件三连的最后一门课程，虽然是在已经学过数逻和计组的基础之上学习，但是作为一个更 high-level 的课程，肯定还是有些难度的。不过刚开始讲解的流水线以及缓存等等内容还是和计组中的内容有一定重叠，所以目前课程理解起来倒也不太困难。但还是有点怕后面的几章指令级并行、数据级并行、线程级并行，以及最后两个实验会有一定的难度，所以还是得继续努力，学好硬件吧。另外，就是凯哥的全英文上课确实有点难顶啊，本就英语听力不好的我经常听着听着就容易走神。结果还是靠着看 PPT 和看教材来跟上您的进度。（说实话有时候感觉您也是讲英文讲着讲着讲不下去了、没人互动了，然后被迫切成中文讲 23333）。总之对我这种英文渣渣，可能还是中文适合我吧。

第二个话题就是 goal 和 plan。这也是我们大学生不可避免的一个话题，毕业后想要做什么，将来要成为什么样的人。对于我自己来说，虽说自己绩点还不错，应该也是有希望保研的，但是总感觉自己似乎没有做科研的欲望、也不是这块料。所以可能打算还是先争取保研名额、去读研究生，之后研究生毕业了再去找工作吧（当然目标还是希望能进大厂工作的）。不过说实话，感觉自己反倒没有大一那样的雄心壮志了，慢慢变得更随遇而安了，或者说更现实了？

写着写着，突然想起了《龙樱》里樱木老师说的一句话：“入学考试只不过是一个考试，答案只有一个，都是很严格的。但是人生是不同的，人生有很多答案。不管做什么，热衷于什么，为了谁而爱，都是正确的解释。所以你们要努力生活下去。你们要做出自己的可能性。”说实话我对于自己的未来和人生还是颇为迷茫，但是若能找到自己热爱之路，那总是能坚持走下去的。

最后再谈谈对凯哥您的印象吧，凯哥是个很年轻而且性格超好的人，跟我们很能聊的来，（甚至还精通各种缩写，导致我都经常看不懂 2333）。也很有幸和您切磋过乒乓，凯哥的乒乓技术确实很强呀。另外也希望凯哥能尽快找到对象，实现事业和爱情的双丰收~~~

06

Compared with finding a job after graduation, I would rather choose to get higher degree. I have lots of interests in algorithms, operating system architectures and other topics in computer science, but I also worried about whether I can do well when I'm really doing a research. To achieve my goal, I plan to get good GPAs in the courses and finally get postgraduate recommendation. To achieve the goal, I think my biggest challenge is likely to be myself, who don't have a good self-control. However, every time I lose confidence in myself, I remind myself of my thought of not being an ordinary person, so I decide to go rather than to stay, even if it is slow. I didn't remember the words the senior students and professors said to me, but I can feel that they have experienced what I am going through now, so I have more confidence today. Finally, I want to tell the peers who is similar with me, that don't always deny yourself, because you are also growing.

07

For course:

Teaching in English is the hardest thing I have met. I think it is the main reason why I get less active participation in the class for me. I don't have the background for computer architecture and I do have less thinking about the reason of the certain architecture before. And in class, I need to listen what teacher has said, decode them word for word, correct some errors due to transmission, and try to understand them in time. That is really a challenge for me. This circumstance may change when there are more literal content in PPT, since I, or maybe we all, have a better ability to reading than to listening.

Up to now, what interests I most is the experiment. I have enthusiasm for how to construct a computer from the transistor level to the assembly code level. I used to build a 8-bits adder in Minecraft (MC, a popular sandbox game) use the redstone, which can simulate the transistor, such as Not Gate and Or Gate. After that, I construct a seven segment digital tube in the game, which can receive binary signal 0000~1001 and display 0~9. I have heard about that someone build a computer with 16-bits CPU in MC. I admire him. I always want to know how the wires and gates form the complex structure, and the experiment broaden my horizons a lot. I can use the code to describe the hardware structure and build my own CPU. I have the chance to change some signals and observe what will happen, which makes me thirstier and thirstier. I think it is the charm of architecture that everyone is able to step into every core and see the details in them. I like it, heart and soul.

For future, I am confused. I enjoy researching theory, both math, computing and algorithm. Well, I like code, too. I want to enter some company and make my own products, games or applications, and I also want to enter laboratory and make some researches, attend best meetings and communicate with the big guys. I have no idea which is a better way.

Maybe that's all? I appreciate the class, computer architecture.

Yesterday is history. Tomorrow is a mystery. But today is a gift. That is why it's called the present. Best wishes!

08

因为希望在这个作业文档里抒发某些真实的情感，所以决定还是用中文写，以免我的英文表达词不达意了。顺便一提，写它的时候刚刚过完折磨的期中复习周和考试周末，又积压了很多DDL，取消期中考试周的政策真的很令人痛苦。

我其实很感谢kg在文档里用真挚的笔触包容了每一个要写Q25的同学，这真的是我上大学以来很少接收到的人文关怀之一了。我有时候很羡慕我校宣传上推崇的优秀学生：成绩很好；有很多荣誉，paper；热爱体育运动或者文艺活动；有崇高的理想和志向。我觉得我完全没有办法成为这样的人。我单纯地持有单机游戏这个小众爱好，对文体活动毫不热衷，在竺院的数理基础课程里面挣扎求生。不过，我非常喜欢计算机这个学科，学习前人发现问题、解决问题的思路，用coding技巧（或者是搜索引擎技巧）去解决问题，这是我期望做的事情。

最后终于说到未来规划，我已经计划去就业，希望直接进入IT公司。一是因为家庭的原因没有办法出国读研究生，二是我本身也期望能去开发单机游戏。虽然单机游戏的市场非常惨淡，既有大公司垄断流量，又有种种政策限制，最后还有非常小的玩家圈子。不过我觉得或许还是有希望的，游戏科学的《黑神话》宣传片传播很广，或许是这个圈子里一个新的突破口。我想投身到这些开发者之中去，不过应该从找个大厂打工积累经验开始。因此我学了图形学课程，一点点学Unity引擎，刷刷leetcode准备找工。

我并不知道毕业后会做什么事，但我们总是会有出路的。

09

My goal is to keep studying and get a great offer in the first ten year. After that, I would like to work somewhere with work-life-balance.

Perhaps the biggest challenge is the inability to concentrate on study and being easily distracted by other things.

I kept telling myself that I would have a bad future if I went down to keep me motivated.

I learned from seniors and teachers that only by improving grades and actively participating in projects can I have a choice in the future.

The suggestion for other peers with similar goals is that enjoy our lives everyday.

10

it's really hard to say what I will do in the future, but my current plan is to further get a MS degree abroad after graduation and then go to work. So at current stage, I must study hard to get higher GPA and GT scores. This of course, is not that easy. Just try hard and strive for a better future.

11

I really appreciate that I have met kg in my college life. kg is one of the few teachers I have met that make a connection with their students. I have learned a lot from kg, both in class and outside class. In class, I do appreciate kg's efforts on teaching and interacting with students and I do agree that kg can elaborate key points without loss of simplicity. Questions raised in class always make me thinking. Outside class, being guided by kg in an SRTP project, I think I know a little more about kg's scientific research and life. According to my observation, I share some characters with kg, maybe.

Back to the issue of future planning, in fact, I think myself still wandering in the world of computer science, though entering the second half of my undergraduate career. I think what I have mastered is basic and is still far from application, so in the future I would like to try to seek a higher academic degree. It is also an escape for me. Because I really hate 996 but I can hardly see hope for avoiding such life. If I pursue a master's degree for the coming years, I could gain more competitiveness and live more freely for another 3 years. That sounds like a quite reasonable tradeoff. There are still some problems for this decision, I may work them out and find answers in the future. My mother told me do not worry too much about what hasn't happened yet.

When writing these lines, I reviewed what kg has written for us and was touched again. I can feel that kg's zeal for teaching hasn't faded away, though there are many times such zeal can vanish little by little in class, especially when kg tries to interact but no one responds. There are majorly 3 reasons in my eyes: some students' English is not that good and thus are unable to catch up; some students just tend to be silent, like me; the setting of courses, that is, the contents of 3 hardware courses overlap seriously, in my opinion. However, there still exists some guys that respond to kg! So hope that kg's zeal will never fade and wish kg good health.

12

My final goal is to work in an IT company. However, nowadays the employer or company raise higher requirement for academic degree. It is easier to find a job with a master's degree. So the urgent task on the hand is to fight for a postgraduate recommendation. Because of my poor English and politics, it will be very hard for me to get a high score in the postgraduate entrance examination and enter a good university.

If it is unlucky, find a job involving IT after graduate will be my top alternative. But I also worry about my ability of programming. According the experience in my tutor's laboratory, I feel there is a hug gap between me and senior students. Finally I gave up because of the lack of programming ability and relevant knowledge at that time. There is lots of knowledge I have not mastered yet which could be applied to the future job. I am not qualified now.

At the end of this school year, if I can't get a postgraduate recommendation, I will go to the company for internship and learn more practical skills and knowledge for future job. On the contrary, I think I can learn for two more years with my tutor's help. But the final goal is surely to work in an IT company.

13

I want to be devoted in further education in foreign countries, and then find a good job in companies like Google, Microsoft and so on. Therefore, my dream offer is to be a Master (instead of PhD) in universities like CMU.

To fulfill my goal, I've been working hard, and have got the highest GPA among my major in my first 2 years in ZJU. However, I've lost in frustration recently for several reasons.

Firstly, according to the ranking rules of CKC, the one with the highest GPA is not guaranteed to be the No.1 in his major, and instead, those who take more courses but have relatively lower GPAs tend to have more advantages. This annoys me a lot, because I think that university life is not only about taking courses. There're also many other meaningful and necessary things to do, including getting high scores in language examinations (like TOFEL), taking part in scientific researches and gaining internship experiences. However, if I take a lot of courses and still want to have a high GPA, I will have no choice but to devote all my time to university courses.

Secondly, I once thought that a high GPA can ensure me a good offer. However, more and more people (including my tutor, senior schoolmates, and the reader of this article (I mean, kg)) tell me that the one with the highest GPA is not guaranteed to have the best offer in the future. This means that I also need to devote much time to other things, like taking part in scientific researches.

These two things are so contradictory, and it seems that I can't solve them well simply by working harder. It seems that I must sacrifice my GPA in order to do other things, and this makes me depressed. If only I have 48 hours in a day.

Anyway, I might still kckc 卷 my GPA without avail now if these kind people haven't provided their suggestions to me. Now I'm determined to spare part of my time to other things and achieve other goals apart from obtaining a high GPA. Many appreciations to these people who have helped me.

14

After graduation, my goal is to work and earn enough money. To achieve that goal, I will learn more about architecture, network, OS and improve my skill about interviewing. I think I won't work on hardware because in my opinion, hardware is too complex. But the knowledge I learned in this class and the previous hardware course can help me design better programmes. Actually, I'm more interested in security. I've tried to solve some CTF problems. When I succeed to get the flag, I felt quite motivated and I can know lot of things. I hope I can keep learning new technique even if I am no longer a programmer in the futrue.

15

In my most optimistic thoughts, I would like to become a theoretical computer scientist, and study/research deeply into traditional algorithms. To reach this goal, I am currently participating in the international collegiate programming contest, trying to learn more existing algorithms and stand on the top of a giant. For motivation, probably just passion, and nothing else. I have no idea about how to keep the passion in the long run.

I have no suggestions, neither from senior students, nor to peers, OH NO...

16

In my opinion, it is really rewarding to take this excellent Computer Architecture Course, and it is my first professional course totally in English. I think the course is helpful. During this course, I learn a lot regarding the pipeline CPU, cache or other perspectives of the computer achitecture, which is very interesting but challenging. The only shortcoming of this class is the course experiments. The experiment files offered often have some unbearing errors and those errors always cause bad influences. The attractive experiment class suddenly becomes a mess and we have nothing to do about it. So I suggest that the files should be checked carefully before they are sent to us students.

When it comes to my future goal, I am planning to study abroad and I am preparing for it now. It is important for me to improve my language skill such as skills of communication as well as writing. Also, the grades of my courses are also really important so I will try my best to get a satisfactory result.

My following thoughts may be not well organized because in my mind, I've only got a general direction and vague goals, without much details nailed down.

Before looking forward to future, it's better to look back on the past. Recent years have witnessed the rapid development in the field of technology, and people working in Internet companies receive higher incomes than in other fields. Therefore, it's no surprise that many students choose to major in CS, and I'm no exception.

Now I'm in the third year of undergraduate study, and over more than two years, I've frequently doubted myself: Is CS suitable for me? Should I change my major? Admittedly, my grade is above the average, and I sometimes gain satisfaction when I finish a project. However, that kind of happiness is essentially because of "liberation", not produced during struggling to solve problems. Without continuous motivation in pursuing new knowledge, I find myself unsuitable for scientific research.

Well then, my focus is on the industrial world. I've always desired to study abroad since I was a high school student. Being a one-week exchange student in Russia, attending a conference in the USA and applying for Duke Kunshan Univ and getting a full scholarship, these are all the efforts I've made to live my simple and even ridiculous dream. Under the pressure of my parents, I gave up the offer and came to ZJU. Now I don't regret anymore, but to wait for another chance—apply graduate programs in those top universities like CMU, UCSD, etc.

However, reality is harsh as always. In order to apply for top graduate programs (CS or CS-related, because I don't have background knowledge for other fields), GPA, TOEFL, GRE, relative experience, reference letter and something else all matter, but I've got the first two. I prefer internships than scientific research, but I'm not qualified for frontend or backend jobs. As for reference letters, I'm not that outstanding to leave teachers a deep impression, because neither am I creative enough to participate in the class and publish papers, nor do I get a full score in courses. These are all challenges lying before me.


Despite challenges, I strive to overcome them. For one thing, I search information on various social networking websites, learn from others' successful experience and ask senior students for suggestions. Most replies I got from them are like: You're too anxious. Just take your time and everything is gonna be alright. I do gain confidence after communication, but how could it be alright if I don't know which way to work towards? For another, I've started to learn frontend technologies and do some exercises on LeetCode, but I find it's hard to strike a balance between

in-class learning and extra tasks. Probably because of deficient coding skills and abilities to quickly master new knowledge, I often feel like my future is in the mist.

In a more distant future, under the ideal circumstance, I may work abroad for several years and then, if lucky enough, transfer back home. It's also unpredictable to become a software development engineer or a data analyst or a project manager, although I would prefer to become a PM since my strengths lie in communicating with people and my major as CS is not completely useless.

This article nearly comes to an end. Maybe it's a little off-topic, but these are true feelings and thoughts from me. Thank kg for giving us a chance to write down our thoughts, naive and immature.

Hope to receive your feedback and have the honor to make an appointment with you and have a deeper conversation one day.

(Many thanks to you. You're the teacher who care about their students most that I've ever met. )

18

卜凯老师，您的体系结构课程我还是十分喜欢的。理论内容和实验内容都讲解地十分详细，实验的时限也较为宽松，而且在专业知识之外也有许多锻炼我们其他能力的活动，比如上次的展示和这次作业的这道题，而且全英文的课程也锻炼了我们的专业英语。

对于我个人而言，我还是比较喜欢计算机硬件类的课程的。在大学两年的学习进程中，我发现我更加偏好和擅长比较实际的内容，在计算机专业的学习中就体现为编程和硬件类的课程，以往的这些课程都得到了不错的成绩。不过算法类的课程就比较不感兴趣了，尤其是上个学期的高级数据结构，后面关于问题难度有关的抽象分析实在是让我云里雾里。编程和硬件类的课程就让我喜欢许多，代码如何编写，就有如何的结果，十分清晰明了（不过Vivado确实有时会出现难以理解的问题），通过自己动手就可以十分熟练地掌握相关的知识，不必绞尽脑汁甚至死记硬背。所以如果我以后有幸走上科研道路，或许也会往硬件方向发展吧。

关于未来的打算，我必须承认我是比较不了解的，可以说我更想把时间放在现在的课程的学习上，或者说也可以说我还是完全不了解社会而且不太敢于了解。现在我的希望只有保研，无法保研也尽量会去考研，从而再延长在学校的时光。在硕士之后，如果能继续科研那自然最好，但我至少还是知道这并不容易。我还是相信车到山前必有路，还是继续努力做好当下吧。

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Q 25

我的目标是在ZJU毕业后出国留学,但大概率不会继续再学习计算机相关的内容。

想去美国留学,想去top的大学。目前而言最大的挑战是我的GPA不算很高,也在努力想办法提升。(QAQ计组学得不好,体系好难555)

其实本身自己对计算机没有很大的兴趣(一直想学的是商科qwq)。在大学里也有过转专业的想法,可能不少人都不太理解,因为大家都想转码结果我却想出去。不过我一些关系好的学长包括认识的一些老师,他们并没有多干预我的选择,他们告诉我我自己要有计划,然后去做就好了。当然最后我还是留在了CS,快乐计院人。

建议的话我不知道自己给的是不是好建议。我自己是个没有什么大志向的人,我只想赚好多钱然后过好日子(划掉),但上着kg的课,包括记得wk老师说过“我们zju出来的计算机人,还是应该想着要在计算机发展的历史上留下自己的名字”。大家在这里念书的都是很优秀的人,希望你们能真正为计科的发展努力,选择健康阳光的生活学习态度,做灿若星辰的zjuers.

好久没写这么多字了,字越来越不好看了= =

给kg撒花



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I do not quite decided, probably go to a random european country and grab a random job. Then enjoy my "retired" life. Basically just LIVE FOR TODAY and left tomorrow's problem to tomorrow. That's how life should actually be.

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From my perspective, the main idea the computer architecture teach us is the thought of trade-offs. In the implement of a design, we can find out many trade-offs between the performance and the cost, the design complexity and the effectiveness and so on, when it comes to our daily life, we can still point out the trade-offs in many situations like the grades and the interests, the health and the academic stress, the deadline and laziness.

I have discussed with my friends who I think they are worth to discuss with about the future, about the plan after graduation, someone can give many sincere and help suggestions but someone will only say some meaningless words like "tql". I look up to those who are intelligent and knowledgeable, but I hate those who are hypocritical and I look down to those which talking with is a waste of time.

As for my goal and plan, the first one may be the desire for a strong and healthy body, thus I spent a lot of time having physical training. And I still don't have an idea on the future plan after graduation. In my opinion, wasting time on striving for some meaningless scores is against my sense of value, and I clearly know that due to this, the road for postgraduate recommendation may be a dead-end alley. For the same reason, spending almost half year on preparing the National postgraduate entrance examination is also intolerant. Therefore I follow kg for doing SRTP, and play the CTF games. I find out that playing CTF games is learning some skills and knowledge which we will never learn from the class, but it need the participant organize the knowledge learn from the class like OS, computer organization, computer architecture. And doing scientific research is a little boring but when I thought "Hey, guys, you are attacking a computer. it's so cool", I can restore the confidence and keep reading articles.

kg always say my thought might be a little practical and jump, and kg teach us that the procedure of scientific research is linear and step-by-step. I try to think in that ways and find that thinking linear can enjoy and feel the process of logical deduction but thinking jump is enjoyable and charming.

And as for the last goal, it's a little shameful for talking about it. The hacker's title will be my goal for chasing and try my best to achieve it. And in another words, I want to be a security analyst. I have met many excellent seniors and teachers(like bhh, kg, forMarlin, Nagi :) and read some article in this aspect. I also realize the chasm between me and those guys, But I would like to study more and more in this aspect.

Just as kg comment, this article is jumpy and non-logical. Thanks for reading such boring thoughts hhhhh.

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Actually, this question is one of the most novel assignment since I entered the University. As an ordinary student, for the last two years, I spent most of my time studying courses hard in order to get higher score. But every time I saw my friends hanging out during vacation, I always wonder why it is so hard to balance between personal life and study. In addition, after studying more professional courses on computer science, I think my ability for coding or math does not improve so much, although I may get a relatively high grade on that course, compared to those who play an active part during courses. The most important goal for me during the university would be applying for graduate students in the USA, which has been my dream since my junior high school. So at the third year of the university, I may start to learn English and do some research to make myself more competitive. But there is also some obstacle like I am not sure which field I am interested in. I want to try the AI but I am worried about my poor math or coding ability. I want to explore the hardware but I think I am not that creative to construct some novel ideas. Thank you so much to let myself to share my own thoughts, kg. In fact, I think I'm a person ^{who} can not live without teachers' courses, since my self-study ability is not so well. Studying architecture with you is one of the luckiest thing during the university because you are always passionate about giving lectures and willing to ~~be~~ listening to our thoughts.

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Q25. 说来惭愧,每周日晚上都想着明天一定好好上体系课,可以望每次英文听着听着就开始对着ppt犯困,这次的作业前18道题还以着计组及做实验的基础跌跌撞撞地写完,后面几题都是翻着课本和舍友写半天才勉强得到答案。后面一定要更加勤奋地学习体系结构。

关于未来的打算,目前自己的成绩是在保研边缘徘徊,所以我的计划是大三下课程较少的时候我希望能找份实习,多番学习一下,如果大四上能够顺利保研,再考虑进入实验室,否则是打算直接就业。但是父母那边就很希望我去考研,个人认为读研可能不如工作,但无法说服他们,这方面是有一些压力的。之前有联系过学长学姐,他们也都大四,也并不清楚读研好抑或工作好,但是目前我对科研并不感兴趣,所以更可能选择就业,也算是一条自己选择的道路。

关于未来真的越写越纠结,也越迷茫还是立足当下,先好好学体系!!!

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Dear kg:

For me, such a course assignment is really a surprise! Thank you for giving us such an opportunity to express our views on the course and other ideas.

(1) For me, the real challenges in Arch are these three points:

- reading English books, my English is not good. When reading the English original books I often get confused and sleepy
- And I am so sorry I often can't keep up with your spoken language,
- and I am not good at doing calculating questions. I often counter all kinds of errors in calculation problems, and because of this, I get the final paper points of 62 points in the final exam (40% of all score) in computer composition (even if my usual score (60% of all score) are full)

(2) I think interaction in the class is necessary and beneficial.

- First of all, it makes me afraid to get sleepy and distracted, forcing myself to devote myself to understanding what the teacher just said;
- Secondly, I can adjust the rhythm of the classroom, This is much better than many old professors who only read PPT; And I often admire the cleverness of classmates by the class interaction.

(3) The main factor that held me back when I was trying to ask or answer questions is that my spoken English is really terrible. Let's take the class presentation (Assignment 1) as an example. It takes me several afternoons to practice for less than four minutes. And I'm relatively dull. I rarely respond to the questions raised by you in class. The frequent situation is: Teacher says the answer, I will scream in my heart, it turns out that it is!

(4) Although you have been very good and very dedicated to this course, here are some suggestions:

Could you speak at a slower speed? Although I can feel that you have taken care of our English to the utmost extent. You rarely use continuous reading and uncommon words. But for some difficult knowledge points, the speaking speed is relatively fast compared to our poor understanding speed. We still a little bit can't keep up with you sometimes. At this time, you will often find our dazed expressions and explain them again. So I personally think that a slightly slower speaking rate will allow us to understand the English content at one time, and it will be faster and more efficient than the case that: after teaching it in English at a quick speed, you spend time explaining it in Chinese for the second time, which consumes more time.

However, the speed of speaking is not too big a problem, because I watch the video playback every week, and there will be subtitles that come with classroom.zju.edu.cn , If I don' t understand one point, I will keep it in notebook and replay the notes to supplement the notes.

(5) After graduating from my undergraduate degree, my goal is to read a Ph.D. student. If I fail in the "recommendation for graduate students without exams" (the competition of CKC mixed class is too fierce), I will work directly. Now the main center is in the course scores and a national SRTP (the Ph.D. Student who instructs me will check my progress every week).

An very touching suggestion I got from Shuhan Liu is "you have to find your own irreplaceability". This is why I choose to study directly for Ph.D instead of master in the future. I want to make my own contribution in a certain field (although it may be very unpopular).

~~The advice I want to provide to the younger students is to choose the computer architecture course of Teacher Bu.~~

Finally, I am very grateful to meet such a excellent teacher, who not only saved my last bit of interest in the computer hardware experiment, but also made me feel that an elder brother of the same age can take teaching as such a passionate career. Your humorous , kindness and activeness on QQ have brought me new cognitive experience. The architecture class brings me more happiness, touch and happiness beyond my knowledge. This will definitely be my luckiest choose to join the Arch class of you!

Best wishes!

yours sincerely

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Wow, this is the first time that I share my thoughts with teacher through after-class homework, the computer architecture course is really the most special class that I have joined in the university.

In this class, I truly feel the enthusiasm and patient of KG. In fact, the hardware knowledge is not easy for me, I usually need more time than others to understand some concepts and problems, but tell the truth, I feel very lucky to join KG's class, for the past eight months, every class was very logical and made me learn easier(although my English is not very well, sometimes when KG speaks Chinese, it is usually the time when I learn fastest hhhhh, but it's my problem).

From the course itself, I truly learned some creative ideas such as pipeline scheduling and loop unrolling, maybe hard to say, but I can feel I know their main thoughts and can be used in many other aspects.

And I can feel KG wants to make friends with us, the atmosphere over the classroom is always very comfort, which also make me enjoy the class.

All in all, this is really a wow class for me.

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Dear Prof. Kai,

For youth like us, especially at this stage of life, it's quite important to listen to and learn from the advice of the elders. So I'm really thankful for you to not only care about our learning in and outside the classroom, but also reminds us of the coming future, and gives us the most heartfelt advice. And all of your effort for us students makes the Computer Architecture course more like a course of what to do, where to go, how to choose and finally how to live our life on our thought.

As for the course, if some suggestions have to be raised, I hope the boundary between this course and Computer Organization to be clearer, though I also understand that it is very difficult to do this well. As the teaching situation of the Computer Organization differs, and you also urgently want to mention us something in the overlapping part. But is the teaching time of these overlapping parts too long? If I've calculated it rightly, almost 5-6 weeks have been spent on it? If you agree with this suggestion, I hope you can try to reduce this period of time in subsequent courses.

And I also suggest the curriculum framework to be clear. Because half the semester has passed, and I am reflecting on myself at this time. Do I really know what I am and going to study in this course? Not really. Do I really know what aspects I need to master in this course? No. Do I really know what the core and focus of this course are? No. Of course, I also need to admit that a large part of the reason is because I didn't do well in this course. But when I feel that almost all of the time we have spent on the class is like the revision of the Computer Organization (thought I also didn't master it well) and I don't seem to have learned a lot of new knowledge, is there something wrong with this course? Without a clear goal, it will become painful to fumble and learn, and in this semester, to be honest, we don't have much time to allocate to this course. So in most similar situations, I think most of the students will do some 'trade-off', am I right?

As for my personal future plan. I need to admit that it is not clear yet. I have indeed been thinking about it for a long time. But I really don't know what I want to do in the future. Often, life won't ask what I want to do. At least at this moment, computers are not what I love, or in other words it hasn't reached this level. So I tend to go deeper and go higher before I found it (that also depends on my grades). It's also a trade-off

(* /ω \ *) xixi. After all, it's also the case for most people.

Living hard while working hard to love life, and try to accept the final result calmly and with no regret. xixi.

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To kg:

见字如面, 我的英语 is poor, 因为可能要使用中英文来完成。

在上您的课前, 我就从很多学长那里了解到了您, 像 Lu Jian Huang and wt 学长都对您赞不绝口, 从您这半个学期的教学来看, 您是我遇见过的最有个人魅力的老师!

实际上我是一个很喜欢提问/回答问题的人, 因为一方面对 google 的过度依赖让我在提问前总要问问自己: 你的这个问题, 能 google 到吗? 如果能, 那为什么还要提问? 另一方面, 我并不很喜欢“出头”(河南话), 所以我更希望能听而不是问。

这门课我听其它学长说, 在课改前就是门水课, 难度低考试简单, 大号的计组 2.0, 在前半学期的学习中, 由于 OS, db 等课的铺垫, 更多的是给我一种是上通识课, lab 难度大的感觉, 也有可能是我 OS 基础比较扎实 QAQ, 但是我确实没看出来有很多的考点, 希望 kg 课上可以多讲点例题。

对于未来的规划, 说实话我没太想好。我很喜欢 web 开发技术, 目前也有一定的了解, 并不是特别喜欢科研。更希望能提早进大厂领福利, 但是周围学长还是科研偏多, 而且爸妈更希望我读硕。现在的成绩感觉保研应该是达的到的。

但是 anyway, 我计划大三下 → 烟上先实习一年, 再做之后的规划 Xi Xi

其他作业写不完了, 先摸鱼。

Best wishes!

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Dear Kg:

Thanks for providing us with such a platform to express ourselves. I am deeply touched by what you say in the Q25 instructions and feel greatly encouraged and inspired. Actually, ever since I attended the university, I've find a wide generation gap between professors and us students. But Kg is so amiable and always tries to relate to us, not only in the class but also in QQ groups(?) and maybe some other ways in our life. I am glad to have this opportunity to share my thoughts with you.

What is my goal and plan? In fact, this is a question which confuses me for a long time. Every time when I struggle to finish the labs, assignments and projects, I always think back of why I choose Computer Science as my major. Not because CS is in great demand now and seems to have promising prospect, but for my curious and a little passion for doing something new (I was idealist at that time). But after 2-year study in CS courses, I find my enthusiasm seems to fade away gradually, as well as my confidence. Actually I enjoy the courses to some extent, but the burdensome workloads always make me exhausted. I am not that brilliant and it always takes me much longer time than others to understand some knowledge and complete the tasks. This lead to the lack of time for pursuing other things: maybe I have a relative decent grades, but I am lack of scientific research, competition experiences and practical activities. Besides, the grades don't necessarily reflect how much we master the knowledge. Thinking carefully, I just always understand the surface and forget the knowledge after the exams. So sometimes I am thinking of what we are learning for and how we should learn, and even worse, doubting if I am fit for this major. I would appreciate it if Kg could offer me some suggestions.

But anyway, I will not change my major in the future since it is too costly. I will just confront the challenges and keep down-to-earth to find the specific field that I actually enjoy. As planned, I will pursue graduate study even though I am not sure where to be. As for the field, I don't know much about the fields in computer science. Machine Learning and Computer Vision are just too hot that I think I cannot compete with others and stand out from the crowd, even though these two are also what I only know about at present (but don't know much about them as well). Maybe I will try to learn some other fields such as Data Visualization, or healthcare-relative fields, but only after studying and some trying that I can find where my interest lies in. But there's another thing, that is, I am really hesitated in making decision. Considering too many factors and being unable to weigh just make it a great headache for me to make decisions. I choose to escape deciding by abandoning all of these choices at many cases, which makes me lose many opportunities. Wish I could conquer this shortcoming and be more brave and decisive. As for the long term, I am still puzzled about what to do. But I am sure I will find it eventually.

As for the course, if there should be some suggestions, I hope Kg could speak Chinese when instructing some significant point, since English may not that clear and I tend to get distracted (but this is also my problem). And the assignment seems too many at one time, hopefully it can be divided into some pieces periodically.

Thanks for your patient reading. Please forgive my poor language and messy logic. Thanks again for Kg's caring for all of us, your devote on the course and the interaction both inside and outside class make us more motivated. Wish Kg happy every day!

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First, let's talk about goals. For me, life can be unpredictable, so a clear goal may not work in many cases. In fact, my decision making strategy is quite special. For short-term decision, I would like to leave it to the last minute. I have experienced many times buying airplane ticket in the afternoon and then going home in the evening, simply because I want to go home in the morning. And for long-term decision, my mindset is like AI program in searching. When making decision, I would like to first rule out those impossible tracks for me, and then choose a direction that can provide me greatest expect return. So my long term direction could be somewhat vague.

For now, my plan for the future is quite simple: I don't want to be a graduate or PhD in ZJU, nor in other universities in China. This means that I can either apply for master or PhD abroad, or just go to a company for work. But clearly, I have put more emphasis on pursuing a degree, because I want to give myself a chance to discover more academically. I may try as much as I can on academic track, until I find that I'm not capable of doing researches or industrial field is much more exciting.

So currently I'm trying to increase my research experience. It's a really difficult task, since ideas hardly jump out overnight, and doing code implementation and experiments will require so much effort. So basically I just try my best and devote most of my spare time to do research and ask my instructor for help frequently.

For staying motivated, in fact, my mood is like a sinus curve, and I'm quite used to it. So I will not try to encourage myself when I'm down. Instead, I just play games or watch videos to relax, and I will be energetic after some time.

For suggestions, in fact, due to COVID-19, I didn't find the suggestions from senior students quite useful in preparing for studying abroad. But I still find their words actually work when they serve as information. I just listen to them. Since I believe that there are great gaps between me and other students, I don't have much to say. The first thing I want to say is: frequently communicate with others certainly helps. And for the second one, **STAY AWAY FROM CKC!**

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The future is undefined, though already I know what I am talented in. I enjoy coding in software system, such as web application, client GUI program, and some tiny automated scripts. I have explored much in Reverse and Web by solving CTF problems out of interest. In math, stochastic process and statistics are very fascinating, and I want to learn more about them in mathematical modeling.

So, my career goal is to become a software engineer, more specifically, a software system architect. To mention more about this, I hope the software system would be a virtual world for gaming, since I love playing video games and have learned much about game design from developers' masterpieces. That's cool to create a virtual world that makes player indulge in it, isn't it?

In this sense, I am considering getting in touch with software engineering in top companies, since many instructors and professors in the university are divorced from industry for many years. In other words, yes, I don't think pursuing a Master or Ph.D. degree would be the best choice for me. I have read a lot of interview experiences written by senior students, and I think it will be chances for me to gain more EXPs (经验值) by interviewing and having internship in top companies. So, I am preparing application projects, solving Leetcode problem and studying Computer Graphics. However, the pace seems to be slowed down because of the burden comes from other compulsory courses. Whatever, check them out in my winter vacation.

So, my goal after graduation depends on my internship experience. If everything's fine, I should be working on a game development company after graduation. But I am not the type of person who believes in "everything's fine", flexible plan will be made. Just like what *kg* mentioned, "Commit to

something and commit hard. Doesn't matter if you switch later. It's easier to prove yourself if you've had to do it once before", just see how deep I can learn about Computer Graphics. I won't forget the first time that I try to program a video game, that's one of the motivations that makes me to learn this major so far.

For suggestions offer peers with similar goals, I will say, do what you enthusiastic about. **Getting over the hardest semester, we will have a bright future.**

By the way, I also notice that senior students provide their suggestions to the course. So maybe I should say something, too. I think Computer Architecture is a part of Computer System course chain, which is an essential part of CS major courses. In this part, we should focus on high-level machine description and specification, distinguishing from the course Computer Organization. Topics may cover Modern Processor Design (CPU, GPU, etc.) Instruction Set Design (x86, RISC-V, MIPS, ARM, JVM byte code, LLVM-IR, etc.), Virtual Machine Implementation (General Purpose VM, Software VM, OS Container, etc.), and Parallelism and Concurrency (data-level, thread-level, etc.). The course from *kg* is fantastic, interactions in class are highly appreciated, but the syllabus of the course won't change easily. What a shame.

Also, writing more Verilog codes won't help for my future development, and I already wrote many of them in the previous courses. What's worse, debugging them is tortuous, so I always have bad experiences with Arch Exps.

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Once my dream was to make certain achievements in scientific research, but it is a pity that the society has erased my dream. When I was in junior high school, I always had a desire to explore new knowledge. At that time, I had a strong desire and confidence to contribute my strength to the scientific world. But when I entered high school, I studied mathematics competition. In this regard, I gradually realized that I was inadequate and insignificant. I gradually realized the gap between myself and others in talent, and gradually realized that I couldn't catch up with some things with my own efforts. These gaps frustrated me and gradually lost my enthusiasm and confidence in scientific research. So, after high school, I chose the most popular computer major instead of my favorite math.

As a freshman, I still have quite good goals and can't stand out in scientific research, but I also want to make my own achievements. With this belief in mind, I tried to improve myself and wanted to make up for the gap with others. But on the whole, freshman achievement is not satisfactory. At the beginning of my sophomore year, I gradually became decadent and had many bad habits. Homework procrastination, often playing games, brushing videos, learning enthusiasm and motivation are greatly reduced. I blame myself and feel guilty countless times. If I degenerate like this, I will only make the gap between myself and others bigger and bigger. But I am more and more decadent in these reflections. What's the future? Now I don't have a clear answer. I hate myself now, and it's hard to change. I don't know what will happen in the future, where I will be in the future and what kind of road I will take. I just feel cold for myself, just feel the confusion and darkness of the future.

The system class is warm, and so is the teacher. It should be a great harvest for me to have such a chance to reflect. Although things are getting farther and farther away from my expectations, life will continue. Here, I will sum up before the University, perhaps it can also make myself more motivated.

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Dear professor kg:

Thank you for giving me the opportunity to see who I am. I really enjoyed your course despite of my poor English. I still remember in the first class, I said to meet new friends and then you said jokingly: "Aren't you in this class to learn?". All students laughed out loudly. (It was a little embarrassing for me -haha).

Now let's get down to business. I plan to pursue a higher degree because I know my ability is poor for the future work and I would try my best to improve myself in the future. The most important thing is my English level, most of the time it's not that I don't want to listen to you, but that I don't understand English. But every time you speak Chinese, I try to listen. The closest thing to my goal, of course, is grades. Because if I want to stay in graduate school, grades are very important. Many seniors have told me that it is a good choice to go to work if the grades are not good, but I'm not think so and I long for a higher degree - although I always paddle a lot of the time.

Your course as a whole is very lively, I think one of the big reasons why people don't listen is because we talked about it in the previous lecture. For me, interactions are important to help understanding the content. So please stick to your teaching style.

Best wishes

33

Dear Kaige:

I'm glad to have to a chance to learn with you. I really enjoy the class especially humor of you and sings of classmates(lol).

Compared with the low quality hardware classes from some teachers, your class gives me a clear perspective of computer architecture. I think the problem of this course is that, in the first half semester, most of the knowlegde is what we have learned in computer organization class, it sometimes makes me distract from class. I think everyone have noticed that you try to make your class interesting, and I think it gets a good feedback.

I think I'll be a postgraduate at ZJU after graduation, but I'm not really sure. I have thought of going abroad but it seems too difficult in term of my poor English. I have also considered working in an IT company, but I think it is not responsible for my future. I have more probabilities to discover. The only thing that makes me hesitate is that the meaning of being a postgraduate student, if the things I learn is useless for my work, it is just a waste of time. By the way, when I was a freshman, I have wondered to be a teacher in ZJU or some other universities, but I heard too much about the pain to get PhD. I have also heard about it is necessary for a new teacher of ZJU to have study abroad experience.

Thank you for sacrifice your time to read these sentences, I'm really moved that you would like to hear suggestions from us.

Best wishes.

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Dear Prof.kai

I am very glad to be able to communicate with you in this way. After all, it is difficult to meet a teacher who are willing to communicate with students closely at the university.

First of all, in the process of completing the assignment², I read the textbook very carefully for the first time. When viewing the Chinese version, I can more intuitively choose which parts to read carefully, and then skip to the English version to see the specific details. I think the Chinese version for some parts seem to be more difficult to understand than the English version, and even the translation is not as good as Google translation. Of course, the above situation may also be simply because of my stupid. I have no opinion on the theory class. If there must be one, I hope you can speak slower, because my English listening is too poor.

Then, I want to summarize the changes from freshman year to now by using these hardware classes as examples. The first class I took about hardware is *Digital Logic Design*. I first came into contact with the hardware experiment, and it was actually a bit difficult to get started. However, the experiment progress in the class I was in at that time was very fast. I must did it in advance, and then in the experiment class wait for the teacher's check. At that time, the experiments were all done by myself. When I finally wrote the final homework, the earliest version was very bad. There are a lot of bugs. Although it is approaching the exam week, I still took a few days to refactor the code. I have to say that the completion of the refactoring is indeed a great harvest for me, and it is more of an affirmation of ability. Later, I took the class *Computer Composition*. The first few experiments were completed normally. When it came to the part of the pipeline, the project became larger and larger, and it was difficult to debug. I also faced the final homework of other classes. Then I borrowed other people's work. Then, the experiment has been checked and accepted. Although I carefully read other people's code after that, some things are still different. After that time, it was difficult for me to spend a lot of time to complete the experiment independently. The subsequent experiments were done by copying other's code. In the end, I didn't even want to spend time reading the code. Once this kind of thing has been done once, there will always be more reasons to continue to indulge. The development of things here has already had a great negative impact on my mentality. I used to hate putting myself in a weak position for no reason, because this mentality would make a person fall quickly. But in the anxiety of much DDL and exam week at that time, I was not soberly aware of this problem. When I am out of that environment, I can reflect better. I now always remind myself not to fall into that state again. This is also a big change from my sophomore to junior year.

For the future, I plan to find a job directly. I am currently exercise algorithm problems and reviewing previous algorithm knowledge. (PS: The last time I exercise algorithm problems was two years ago, I obviously feel that my ability of thinking is not as good as before +_+_).

Finally, sincerely thank you for reading the above content.

PS: 看到凯哥链接里有以前学长学姐的反馈, 万一我写的内容会被分享的话, 希望给个人信息打码。 (" ▽ ")



Dear Prof. Bu:

I still feel lucky to be a member of your class. It's not only because the lecture you delivered but also the atmosphere you've tried to make, which makes me feel like anything can be talked in the class and QQ group.

As is stated in the tutorial, the 3rd year is truly a rasping period. Compared with the 3rd year in my high school, I even do not certainly know where I will be in the autumn of 2023. The study and competition in ZJU ask for more strict time usage and self motivation, which is still a problem for me. This also makes it difficult for me to gain high enough GPA.

For the future target, I have decided to get a PhD. degree. The reason may be that I want to have a more solid academic foundation before work. But it may also be because I was inspired by the phrase "exploring the boundaries of human knowledge".

From experience of the first year in ZJU, I know that compare with my extraordinary classmates can only lead to peer pressure, so I rarely take take the initiative to compare with them. At the same time, I believe I can accept the result I try my best to get. And fortunately, CS dose keep attracting my attention and I'm always feeling happy making clear the mechanism of computer.

The biggest problem I'm facing, in my perspective, is that I'm not so exclusive and ambitious as I was in high school. I usually tell myself something is good enough, although I could have done better or worked harder in fact.

All in all, I'd like to appreciate kg to supply such a chance to force me to think about myself and take it down. I do learn a lot in your class: the idea of computer architecture design, the importance of English and the momentum that the young should have.

I do expect to have more chances to communicate with you and learn the knowledge of CA better.

Thanks.

May you feel free to chase your own happiness.

36

The homework was quite difficult for me, and some questions were difficult to understand. I spent almost a whole day to solve these problems (in fact, I did not successfully solve all the problems). The biggest problem for me in this course is that my English level is not too bad, but it is not too high. English teaching is a barrier for me, but the barrier is slowly decreasing as the class goes on.

As for my goals and plans, MY personal plan is to continue my studies and become a graduate student. It's a little difficult for me. In 2020, something bad happened to my personal love life and family, and the whole year was a disaster. But happily, I felt LIKE I was coming out of it. I'm still optimistic, and I think there's something worth working on.

Thank you very much, kg. I really didn't expect Q25 to be such a question. I now know why the assisted teacher said that in the first class. I'm lucky to be your student.

37

因为字写的太难看了，所以这道题还是打字好了。

实际上之所以会选择计科这个专业，完全是因为我对电脑游戏的热爱。因为喜欢玩游戏所以想

要学会做游戏，非常合理。所以目标从一开始就是想要在以后可以进入游戏行业。

虽然说这个东西好像和科研没有什么关系，但是在本科期间也着实在是没有什么时间和机会去真

的学习游戏方面的知识，尝试自学了一下，差点挂科，还是苟命要紧，所以目前还是寄希望于

可以本科结束之后还有书念，能跟随一个这方面的导师学习一下。

但竺院的基础课真的是太难了，所以前两个学期绩点爆炸，加上卷上天的排名，已经是保研无

望，所以在准备考研。

这么一说好像近期的规划还挺清楚的，为什么清楚呢，因为明确的知道自己的弱小，所以保研

无望，出国没机会，直接工作又没啥本事，所以路在去除了诸多错误选择后就非常清晰了。

38

With the development of the information technology, there's a crying need for a more suitable teaching methods focused on cultivating students' creativity and insights in comprehensive aspects while construct the knowledge network for them. However, there comes a fierce debate about if a casual and easy atmosphere in class will lead to a better understanding of the points given by teachers. After taking the first class of the Computer-Architecture, I firmly believe that a genial teacher can always bring relaxing atmosphere and make the class more interesting, thus the students will grasp the important points in a comfortable way.

The computer architecture class's atmosphere is better than that of the classes I've ever taken, which make me take every lesson as an interesting journey in the world of computer hardware. Generally speaking, what surprises me and attracts me the most is the QQ group of the computer architecture class. Yes, few professor would interact with students in such an easygoing way. In the QQ group, we can talk about where to eat with KG, or introduce girl friends to KG. Sometimes, KG will act as an anonymous speaker. and send some messages like "time to finish homework". And in the group, we can communicate with senior schoolmates, and we can always get something useful about our career, study and so on, from the dialogues.

Well, for KG, I prefer to see him as an old friend or a kind senior schoolmates rather than just a professor with a fluent spoken English. He always think for students, considering students' feedback of the class. So that's why we like KG and admire him a lot. I think the relationship between KG and us will be the model of the student-professor-relationship. And if I can get a chance to teach in one college, I may work like KG and, bring more students knowledge as well as sunshine.

WOW!

39

Dear kg,

As for goals and plans, I have to admit that it's hard to decide where to go... Gradually my enthusiasm for scientific research fades away to some extent, though actually I've never participated in any research project so far. On one hand, I think I am just not so smart to solve some problems, resulting from my struggle with courses on algorithm design/mathematics in previous semesters. On the other hand, due to my limited energy, I think it difficult for me to deal with both the daily courses and the research work at the same time.

So now I think maybe working for a domestic Internet enterprise is my possible future career. And for me, to pursue a master's degree in a foreign university is what I prepare for at present. Though it might seem strange that go abroad just for a degree rather than a passage to a possible position in foreign IT enterprises or even a green card. A fantastic opportunity to learn in a famous university in the field of CS is what I strive for.

But when I calm down, I find there are many obstacles ahead. Poor speaking and writing skills bother me a lot. And it's hard to squeeze out sufficient time for practicing. What's more, without any internship or research experience, I have to consider taking actions to enrich my resume in following days. However, since there are a few pitfalls in the past 2 academic years, I need to continue to maintain a large degree of devotion to daily studying to further enhance the competitiveness of the application. So, it's somehow a dilemma where I need to trade off. Sometimes I will get slightly overwhelmed by disappointment due to the gap between who I am and who I imagine I were.

But when I think of the tiny achievements I have made along the way, my mind becomes a little firmer, "Go ahead, never stop". Whatever, now my targets are just there and I'm stepping forward and forward. Maybe focusing on what I am doing will eventually lead me to the desirable destination.

All in all, it's truly a precious experience to take this course offered by you. I've never met a university prof. who is willing & able to interact frequently and affectionately with students every day before. And the joys, meaningful information and personal feelings shared in the harmonious group all benefit me a lot(though I still dare not to say any word due to my shyness hh). The journey of learning turns out to be interesting with all of the efforts made by you, TAs and classmates. Please allow me show my respect to you, and, Best Wishes!

40

Thank you very much KG for giving me this opportunity to express my true inner thoughts. I'm quite sorry that I can't provide you with any suggestions that can help you improve your teaching. To tell the truth, recently I found my interest in CS major courses decreasing, and I began to try various other lifestyles.

I chose Prof. Lyu Ping's organic chemistry course in this semester, and I wanted to look for other possibilities beyond the CS major. It wasn't until the first class that I realized that this teaching class was for *qiushi* and *qiangji* classes. I estimated that half of the students have participated in Chemistry Olympics in high school. The teaching progress of this class also surprised me. The teacher seemed to acquiesce that all of us had a general understanding of the entire basic organic chemistry knowledge system, and often took us to "review" the knowledge that should be discussed much later when explaining the basic principles. Fortunately, I am not unprepared. I still feel that I can keep up with the teacher's teaching progress, at least equivalent to the average level of this class. I still felt happy during my chemistry time, every Tuesday and Thursday morning.

Recently I am also practicing singing skills by myself. Probably since high school, many bilibili singers (冷鸢 yousa、Akie 秋绘、洛萱, etc.) conquered me with their voices. At that time (during my studying in high school) I had already started to sing quietly when I was seeking for rest, without being noticed by others. Later, I often watched the teaching videos of the vocal music teacher on bilibili, and bought two French sight-singing tutorials (teaching you how to translate the sheet music into a melody and sing it out); and since last semester I have been a lot bolder, I have no taboos when I practice singing in the dormitory, and my roommate can tolerate me making strange sounds occasionally. I once thought about joining the Shanghai Rainbow Chorus. They recruited new members in September in previous years. However, this year seems to be due to the coronavirus epidemic, I have waited for more than half a year and have not seen their recruitment info. I went to Shanghai Oriental Art Center to see their performances on the National Day this year. It was until that day that I really felt what "tension and relaxation" is, what harmony and vividness is. Although I realize that there is still an obvious gap between their level and mine, this is not an insurmountable gap; however, I may not be able to reach it in less than two years before my graduation. Then forget it.

As for my goal after graduation, I may become an unknown programmer, or a high school chemistry teacher, or even an online singer, or an even more unimaginable identity. I'm not sure yet.

41

这个 Q25 应该是大学以来做的最特殊的一次作业了。

先说一下我对自己学习方面的认识吧。从大二下学期以来我其实对专业课学习就有些被动，虽然感觉课程内容的难点主要在于知识量大，实际上需要很费脑子的地方其实相对不多，但是还是学的比较被动。然后后来问题逐步积攒到后面就难以解决。比如这次体系作业，又是拖到了最后四五天才开始做，因为之前又在赶其他课程的 ddl。但是，现在也在逐渐改变了，打算每天补一点之前没有懂的知识。

对于体系课，我觉得老师讲的很清楚，虽然我有的时候有点走神，但是课后看看 ppt 还是能理解课程内容，内容方面其实理解起来都不算很难，但是还是要额外花些时间。除此之外我觉得 kg 尝试一些 presentation 之类的新玩法很 nice，但是再具体做 pre 的时候其实有些问题，就是因为内容限定有些宽泛，在台上的同学讲的多而且比较散，比如会在 25min 内讲 4 篇相关的论文(我们组)。就导致台下同学不能很好的吸收，或者听着听着就听不懂或者听不下去了。我觉得之后做 presentation 的时候可以严格限定一下每组就讲一篇论文，然后在 pre 当天可以给每个同学发一张有所有论文摘要的 A4，这样听的时候就能更方便理解。英文 pre 锻炼锻炼英文我觉得很好哈哈哈。

最后就是个人方面的一些规划，我其实对于硬件兴趣相对于其他领域不太大，可能因为计组当时就没学好，然后受了打击。我比较感兴趣图形学方面还有计算机视觉方面，srtp 也是有关图像识别方面的。之后其实想做一些学科交叉方面的东西，比如利用图像处理技术与医学影像结合等等。研究生的话现在还不太清楚是出国还是在本校，自己查了一些相关的信息，两边也都在准备。目前就是想赶紧调整过来把成绩提升上去，因为大二下学期真的太拉了，一下子就到了保研边缘.....而且现在感觉没门专业课都学的扎实，准备开始恶补。

还有就是感觉大家都好牛，就是感觉好多同学都可以“一直学习”，我感觉我就是学一会就坐不住，除非 ddl 迫近比如现在。因为个人爱好也比较多，也想一直坚持下去，我自己还是挺有信心的，现在最大的障碍就是“懒”和“拖延”，希望边学体系边克服。

感谢 kg 兢兢业业的秋学期哈哈，冬学期一定好好学体系!

42

Dear kg:

In the beginning of the letter, I would like to appreciate choosing your teaching class among all the arch teachers. Thanks to myself at that time so that I am able to sit here in your class. Before answering the question mentioned in Q25, I have something to say.

I still remember the first “WOW” in the first experiment class when I walked in room 301. The lucky draw in the first theory class. how hard he tried to remember the names of us. I gradually find that he is studying arch with us all and trying to make friends with us.

Since I am not major in Computer Science (seems to be a heartbreaking story), even though I may not be good at Verilog and the fundamental architecture of the computer, however I prefer to choose computer architecture due to my little left curiosity about computer arch(especially the labs)and kg (I have already heard the legendary name several times “kg” from my xzxjs).

It is for sure that I have gained a lot in the arch classes, but a lot more outside the classes definitely. I tried to do small research (but failed eventually since it is a little bit harder for me), I learned hearing English after class (through replay in ZhiYun Classroom since it is hard for me to catch up during classes) .

As for the content in classes, much of the knowledge in the first half-semester have been already “introduced” in Computer Organization class so it is much harder for kg to make preparations for classes or it might easily lead to a boring class. However the in-class interactions are novel and a bit more attention-catching. I like the style in kg’s class. (You should know that in Computer Organization classes I usually get sleepy but in Arch classes I never felt like that).

So much for that, now let’s back to today’ s topic. When it comes to my personal goal and plan after graduation, I have thought of going abroad during Freshman period, but then I realized the huge cost and concerned about security of going abroad. Well, there exists a lot of barriers, so I hesitated till now. The most preferable way for me might just be entering the postgraduate entrance examination, the same as most people.

What’s more, I am still tangling about my future way, almost all of the projects/groups(including SRTP,) I have joined are AI-related, but I might not be continuing that direction in my future postgraduate research, so I am wondering both my future research topic and where to go. I would be pleasant if kg could offer me a few advices!

Thanks a lot for your patience while reading my poor English, it was also in this semester (more specifically, in kg’ s classes) that I finally be aware of the significance of mastering English.(BTW I am trying to learn English as well.)

Yours sincerely,

43

To my plans and goals. I guess that at some points in my life, I've decided to be happy for my life. Unfortunately, learning, to me is not always a happy process; it is a tool I use to reach the state of happiness, but neither the knowledge or the process of learning to me is the ultimate goal here. (Guess I shouldn't put the PhD's degree on my list)

That being said, I am now officially worried if some big-name tech company employee is the right choice for me; but I am not that concerned, for 'when a car hits a dead end, it must have a way to double back'; as long as I've got the skills to support myself, one way or another, I will stumble through this mess.

Since the ultimate decision cannot be made now, why don't I just get my hands dirty a bit?

After all, work would always be conducive to my future. (in the right direction would be better, but I can't decide now) I've been taking web courses in machine learning now, since everyone seems to be taking them; maths is hard. And, I should constantly remind myself to reach out! Staying in my comfort zone is OK, but not helpful (for what? but I am now literally not communicating with many people). Sorry for reading to this part because, now that I look back, the logic is simply not understandable...

Thank you, Kai Ge, for providing an opportunity for me to rewind and to be introspective. To be honest, you are not exactly my type of teacher; but your energy and attitude is truly valuable. Though we're not off to the best start, I really hope that I could learn from you.

44

I want to be a PhD student in North America after my graduation from Zhejiang University.

The reasons are very simple:

- A PhD degree will bring more freedom to my choice of career in the future.
- I want to make some, even if just a little, indispensable contributions for the science progress of human. Even though many people who were not highly educated also left footprints in the river of human progress, I think gaining a PhD degree makes it more possible for me to complete this goal.
- I enjoy the process of seeking, pursuing and finding. I believe that taking a few years to settle down and dive into one specific field will be very meaningful for my whole life.
- I always think that a person should try to live a place with a different culture background for some time in his or her short life in order to appreciate and enjoy this world better. When I am in my 20s, I don't have many constraints and worries that can prevent me from stepping into an unfamiliar country and living a few years there. However, a few years after my graduation, things will be totally different since I have to confront many real-life pressures. Therefore, I want to gain my PhD degree in North America.

What I should do?

- Choose fewer courses and devote more time for research.
- Less 卷 in the courses I have to take but keep my current GPA level.
- Talk with the senior students more often to get more information and experience.
- Be less anxious and act more quickly.

45

Teacher Kai:

The homework was finished a long time ago, but it was still delayed until this time to write Q25, orz... I have to say that kg is the most interesting (love water group) teacher I have ever seen since I went to university. The system class is also very rewarding. From the ppt, we can tell that the lesson is well prepared, but it seems that not many people listen to it when you are speaking English (x). In fact, I have a lot to say. I'm exhausted from supplementing some experimental reports recently, and I feel more and more of the peer pressure, but in fact I should be okay hahaha, I am not interested in research, and I don't even plan to get a master's degree, so I want to go to work directly. , But the family feels that academic qualifications are important. In addition, I feel that many of the surrounding peers are going to go abroad.. Good friends such as sz and jha are going to run... My family doesn't show opposite attitude to going abroad, but I always feel that it costs too much money to go abroad, if I can't make the corresponding rewards in the future, I will feel very guilty. Now I want to go to work early and earn money after finishing graduate school... (Is it short-sighted?)

This is the first time for the course to be changed to RISC v this year. The experimental codes are somewhat problematic, and some are not very clear. It should be better in the next session. The theory course may be duplicated with the architecture, but it might be better to repeat it again (after all, it's exam-oriented learning). The database that I spent a lot of time studying last semester has been forgotten, and the rest may only be on the transcript. So it's better not to skip when you encounter duplicates.

46

凯哥：

见字如面。

作业早就写完了，但是还是拖到这个时候才写 Q25，orz……不得不说，kg 是上大学以来见过最有趣（爱水群）的老师了。体系课上也很有收获，ppt 看得出来是非常认真的备课了，不过好像说英语的时候没多少人听（x）。其实有很多话想说，最近补几份实验报告快累死了，越发感觉到 peer pressure，但其实我应该还好哈哈，我对研究不感兴趣，自己甚至不打算读研，想直接去工作，但是家里人觉得学历重要，努努力，GPA 还是卷在了保研线上，希望能保研吧，能保的话大概率就是本校了。另外感觉他们很多人都是要出国啊，可能前面的人要走快一半，sz，jha 这些好朋友都要 run 了……家里对出国不报反对态度，但我总感觉花了那么多钱去国外，要是以后做不出相应的回报会很内疚，现在就想读完研了早点工作赚钱……（是不是太人穷志短了）

课程的方面今年是第一次改到 RISC v，实验代码给的多多少少有点问题，有的不是很清晰，到下一届应该就会好起来。理论课或许与体系结构有重复的，但是重复一遍可能更好（毕竟都是面向考试的学习），上个学期花了大功夫学的数据库已经忘干净了，剩下的可能就只有成绩单上面的东西了，遇到重复的最好不要跳过鸭。

47

I am so happy that I choose this class, it give me a special experience about a course in college. I mean I had never met a teacher in college that want to have a such high degree of participation with student in a class. It is just not friendly to class social phobia in some of the sections :).

I feel so confused for my future. I notice that many of people want to continue their study like becoming a graduate student or going aboard. I think I am not good at scientific research and my personality also don't fit scientific research, so I don't want to keep studying after undergraduate course. And My GPA is quite low even awful at some basic courses like Math, Physical and English :(, I don't think I can keep studying in a school as good as ZJU during graduate state. I prefer to find a job and start my social animals life, and I want to find a great salary job for sure :). My parent want me find a job in my hometown after finish my study, but I think there are more chances in Hangzhou. Studying in ZJU, broaden my horizon, I learn and hear lot of new and powerful things in ZJU although the food and weather are difficult to adapt to. Maybe I can work here for a few time and then go back home, emmmmm, I mean if I can get a great offer here. My dream life plan is open a cafe near my friend's flower shop hahahaha. Forget about it. I am worry about that the undergraduate degree is not enough for the future, I can't figure out that not taking the graduate degree is right or not. It is a complicate feeling, I think I can't pass the postgraduate entrance exam, and there are a joke about programmer that if a programmer can't reach the management layer at 35, he will lose his job , it make me feel anxiety , I don't know whether it will happen on me :(. I do some research that a CS student must finish graduate degree for job or not, most of them are considering that the most of the job focus on experience, but I can't see the future and the information that I receive about life,job and future make me feel anxiety. In any case, My plan is finding a job and finishing my undergraduate degree now. Thanking you that you read my soliloquy, It is hard to find a way to talking about this. :)

48

I want to work in an IT company after graduation. As I didn't get off to a good start in freshman year, it's almost impossible for me to gain admission to postgraduate qualification. Meanwhile, I'm not willing to prepare for postgraduate exam. Just consider me as a student who doesn't work too hard but isn't too bad. Anyway, I truly enjoy the first two years in university for making friends, basketball games, voluntary activities and so on.

At first, my parents strongly disagreed with my thought. Mom thought the higher degree I get, the better future I'll have. I think it might be true for those people who aim at academic pursuits, but I'm not one of them. Afterwards, I persuaded them with consultations from senior schoolmates who already worked in IT companies. Before college entrance examination, I had never thought about what I really want or what kind of person would I be. The whole life was full of study and amusement, which was pure. But when I came to ZJU and faced declaring the major, I couldn't think purely. I'm not saying that I have no interest in computer at all, but the main reason I choose computer science is that an earlier employment opportunity and better-paying job make it easier to promote the stratum and provide for families with a better life. I used to have great dreams when I was young like most children, but now my ideal is just so ordinary. If I can choose again without any scruples, I truly want to study architecture and become a talented architect.

Since I have made my goal, I plan to participate in summer internship next year. Resume submitting starts from about February, and I have to prepare interviews before that. From now on, pay more to OS, computer networks and also computer architecture courses, and review database system and DS in winter vacation. Meanwhile, do exercise on LeetCode. I haven't decided which city to go to, but I would like to start with the summer internship in Guangzhou. My hometown is Urumqi, and I want to settle down in the south and get my parents here as well.

Thank you, kg, for listening to my long-winded words. You are a special teacher, and this is the most special assignment I ever have since university.

49

Thank you for all ideas as well as suggestions. You had made a lot for our undergraduates to pursue a better self, thinking more about the past, now and future over the knowledge we have learnt. That's really important to me, who is looking for the target for the next ten years or even longer.

I want to choose **doing research** as my future job, and I'm giving it a try nowadays. Repeated work with high salary like basic Web frontend development is not attractive for me so far(may become attractive in the future, who knows). During the work of SRTP, I found my lack of innovative thought and adequate knowledge compared with others, which makes me anxious, and I doubted myself many times. But one thing is for sure - I love to try something new, think in different way, and finally use the knowledge and action to make my idea into real thing (even with great effort but no reward). That sense is GREAT!

For me, choosing CS as my major is not an accident. I'm curious about the computer system's principle since primary school, and my parents support me to dig into the computing world, which I would be thankful most. I learnt the C programming language myself at the year of 13, then the MCS51 embedded system. From then on, I found the hardware and software is so attractive to me. I wanted to think it more clearly and deeply about how the computer works, and learn more about the computer organization, interface, even architecture. That urged me to learn assembly language, digital logic, and simple CPU design, and these all makes my studying in university more easily.

That is amazing, while my classmates try to create their powerful application using some popular framework and middleware, I'm still observing the fundamental of how to building the computer(may be a good thing, may be not). I'm a computer architecture and history amateur, too, to some extent. From the ancient MOS6502, MC68000, MIPS R4000, to the state-of-the-art 12th generation of Intel Elder Lake processor, I always want to learn more about their design details by thinking and comparing. So I want to make an attempt on the computer architecture research(but I don't know where to start from).

I'm really not good at express myself, especially in public. That makes a lot of troubles for me. I can not match the proper teammate so I often do something solo. I want to help others and share my ideas but always too nervous to do it actively(when do it online, it will be better for me). My math is so poor since high school. Sometimes I'm so stupid that I can't keep up with others thought, which makes me upset. I need to take more time than my classmates to fully understand lots of things(so I often take more time after class). I have procrastination since university...

Thank you, kg, to share so many about life and meaning with me. I will keep moving, never give up and investigate more about myself and the world. I hold the belief that we will have a better future. Thank you!

50

thoughts on my goal and plan:

My goal, I'm not sure about it now. I'm likely to have further education, but after that, who knows? I have changed my mind between researching and working for practical cases for many times. So, my simple plan is studying harder. It is important for me now. The first advice I should remember is that if there is work to do, do it now.

51

凯哥：

新年好！

为什么这么迟才给您写这封信呢。当时有这个作业我还是挺高兴的，还是很想认真写些的，感觉是一件难得的事。每每有胡思乱想的时候都会想，诶，这个想法是不是可以写写。在浙大这几年也上过一些课，感觉愿意和学生互动交流的老师屈指可数，上一次我和老师有些交流还是大一入学初，班主任要求的写一份信，刚刚回看了下，当时班主任也很关心我个人的状态。离入学也已两年有余了，我人生的处境也的确有了变化。在新年写一些，也作为一个记录和纪念吧。不知道一年之后再看，我是否又走出了一段距离呢。

关于凯哥：凯哥是我印象里最有热情的老师了，可以直观地感受到凯哥身上对这份事业的热爱，和凯哥身上那种积极乐观的态度，很关心学生，愿意和学生交流，一开始觉得凯哥应该博士刚刚毕业，后来知道凯哥已经是教授了。上课的质量和课件的用心程度也是很高的。凯哥应该也听了很多赞美了，哈哈，不多吹了。

关于课程：关于体系这门课，今年内容改变还是很大的，我在 98 上看了一份仅存的去年的回忆卷，内容感觉和计组特别像。回忆一下这个学期，前半学期，我有一半时间在隔离，感觉学的内容和之前组成课有些重复，自己组成课学的并不好，花了些时间把组成比较重要的点看了

看。后半学期花比较多的时间学习体系，主要是感觉内容太多进度很快，而且许多内容是研究生课下放。和之前学的课不同，我这种没有领悟力的人，学习中总是想做题，看应试的东西，之前学的很多课都是可以找到很多对应考试的东西，比如基础课有许多练习题，有些专业课有很多考研题。体系这门课关注真正的计算机，有点科研的味道，挺多东西可能是需要理解领悟，没法通过练习来提高。我自己做的也只是上凯哥课时尽量听，作业自认为认真做了，也看了中文班的教学视频，了解了一份别班的作业。说实话还是挺慌的，许多知识并不在掌握中，也只能尽力而为了。

关于我自己：这部分写给我自己，哈哈，凯哥可以不用太在意。凯哥在 Assignment 里还写了挺多可以写的东西的，真的挺好。凯哥常常写在课件里的一句话是”no man is an island”.不过就我而言，在浙大与他人的交互很少很少，比较自我封闭，这应该与我个人的性格和经历有点关系，就学习或生活而言，封闭在茧房内并非一件好事。其实对我而言，在浙大发展的时间满打满算也还不到两年，基本上还是一个大二的学生吧，原因是大一时家庭里有些变故，自己的身心也不健康，有时候昏昏沉沉，有时候太紧张焦虑，学的课程，接触到的事物都少了一些。我儿时在沿海的一个小城市的城乡结合部成长，懵懵懂懂的，一路学习，进了城里的初中、高中，高考考进了浙大。一路做题、学习，在比较封闭的小环境里，只知道把课本里的东西看懂学会，很多学习之外的认识比较滞后。进了大学，也算是半只脚踏进社会了吧，很多事情比想象中要复杂危险一些，一时没反应过来。不过渐渐的，也找到自己必须承担的责任，要

做的事，比如正常的学习、毕业。计算机技术的世界是广阔的，有无数的内容可以学习。就我个人而言，能否让自己的学习和生活走上正途，找到能坚持做下去的事，还有待探索。此时此刻的我对于学习、生活的思考，显得有太多的不自信和不确定，但人生的道路不能暂停，需要走下去。不过最最基本和重要的，我想是经营好自己的日常生活，保持一个比较稳定的心情，建立在这基础上，也许还有更多能做的事。其实关于自己的事说多了有点怪怪的，是不是。眼前的事还是把考试周考过，这个考试周由于要补的课太多，每天都有考试，保持一个正常的状态去考试，对我来说还真是一件不简单的事。不知道这次过后我的学业会有什么变化呢，还是专心些应对吧。

这一两年好像比较多的信息来源都是 cc98。有几个 98 上的帖子，发帖人也是老师。里面的事情我虽然没经历过，但是挺有感触的，贴个链接，如果凯哥有兴趣可以看看，好像有天听您和同学聊天也在说几个帖子，挺有意思的。就写到这吧，可能有点自作多情了，还是自己想写点，心里会平静些。凯哥忙就不用费心回复了。祝凯哥新年快乐！

<https://www.cc98.org/topic/5220310>

<https://www.cc98.org/topic/5197477>

[kg 很抱歉这道题我准备用中文回答了, 由于我的英语水平实在是太不行(一直想提升来看, 但真到学的时候又没能下工夫, 但为了备考六级最近已经在学了), 如果用英文答可能我很多精力都得花在英文表述上, 为了在有限的时间内更多更真实地表达我的想法, 我就直接用中文写了]

首先呢真的很感谢kg您对这门课的付出与对我们的关心和鼓励, 无论是从上课前做的准备, 还是从上课时多次的提问与互动, 亦或是 Assignment 中诚挚的评语, 我能体会到您是真的很想上好这门课, 同时也很想拉近师生间的距离, 给予我们尽可能多的引导与帮助, 而在大学中还能有您这样想法的老师真的是少之又少。

看完您在 Q&A 后面写的话我真的很感动, 其中一些 idea 真的很棒, 很触动我, 所以我也决定与您分享一些自己的真实情况和想法, 也真诚地希望能得到您的一些看法与建议。

"In particular, you are highly expected to develop a clear vision and be determined to strive for it." 我非常赞同这句话, 自己和同学聊未来时也谈到过, 如果能找到一件自己真正热爱的事并让它成为自己的工作, 每天都能为之奋斗确实是非常重要的事。什么是自己真正热爱并愿意付出巨大心血为之奋斗的事呢? 对这个问题我目前还没有答案。回想当初选专业时, 自己选计科是因为当时了解也不多, 只觉得计算机前景广阔, 而 AI 也越来越重要, 因为自己的上进心, 就想着未来要努力为中国在 AI 领域的发展贡献自己的力量。
天真的 还做了相关的study

但两年多已经过去, 自己也只是知道了计科专业 科 大概有哪些方向可以选择, 自己在课余并没有对某个具体的方向深入了解。上学期学了 CG 课, 但感觉学下来自己也不是特别感兴趣, 这学期冬学期会上 CV 课, 大三下应该会选 AI 课程, 不知道自己在学完这些后能不能找到自己真正热爱的方向。关于未来打算, 自己由于自身的一些问题, 现在绩点排名在 50% 左右, 大概率是没希望保研了, 自己也没有直接就业的打算, 所以应该会走考研这条路, 同时如果到大三结束还找不到自己真正感兴趣的方向, 应该大概率会选 AI 这个方向。感觉自己确实 科 在其它方面做的努力不太够, 也没有主动向学长学姐了解相关情况, 这方面自己得 科 多下点功夫。

我的大一大二过得很差劲。大一时一心游戏，成绩一落千丈，从竺院退院。我觉得该好好学习了但是我仍然缺乏动力，直到大二我经历了一些糟糕的往事后。大二过得也并不好，上半年还是“游手好闲”，下半年郁郁寡欢，以及一整年的零学习。

不过也感谢这件让我一度郁郁寡欢的事，它让我开始好好地思考自己的生活的意义：我现在是什么样的人、我到底需要什么、我未来要成为一个什么样的人。

...

打了很多字，关于过去、现在我与未来的我，想了又想，还是决定删掉它们。（对我来说似乎有一种“魔咒”，我立下的flag总会以各种各样的方式倒下。比如高中时家长问我模考考得怎么样，如果我说考得还不错那最终的成绩一定会很差。）

总而言之，我会努力的学习努力的寻找属于自己的灵感，或许终有一天能找到。

今年来，我要感谢许多给予我帮助的人，给与我两个问题的竺可桢校长、让我在darkest time重新审视自己；谢谢kg，让我从不同的角度认识长辈（如果有可能，我希望未来的自己也能像kg一样做一个随和的长辈）；谢谢一个心理咨询师帮助我解决了两个心理上的困惑（虽然还有许多）；谢谢太多好像会变成“感恩”HHH，还是收手好了。

最后用竺可桢校长的话自勉，“诸位在校,有两个问题应该自己问问,第一,到浙大来做什么?第二,将来毕业后要做什么样的人?”。

加油吧，努力应该会有回报的，或许。