Research the problem 研究问题

The description of each project does not specify exactly all steps needed to accomplish the goal. Your task is to assemble the information on the problem, analyze relevant solutions, find out how similar problems have been approached in the past, and propose tentative solutions. The research phase is successful when undertaken under a mentor's guidance, who can provide you with initial research directions and help with feedback on your ideas.
每个项目的描述都没有具体说明实现目标所需的所有步骤。你的任务是收集有关问题的信息，分析相关的解决方案，找出过去处理类似问题的方式，并提出初步的解决方案。在导师的指导下进行研究阶段是成功的，导师可以为您提供初步的研究方向并帮助反馈您的想法。

Please note that for many projects, it is not required to stick exactly to the specification. Based on your research results, you can discuss adjusting the project idea with mentors and propose more interesting directions for the project.
请注意，对于许多项目，不需要完全遵守规范。可以根据自己的研究成果，与导师讨论调整项目思路，为项目提出更多有趣的方向。

Write a proposal 写一个提案

A good proposal requires many iterations and cannot be written in the last hour before a deadline. Make sure you complete the first draft early enough to give yourself time to review it, receive feedback for your ideas, and convince us that your project will succeed. The proposal should be formal and precise. When writing, include only details and information relevant to your background and the project.
一个好的提案需要多次迭代，不能在截止日期前的最后一小时内完成。确保您足够早地完成初稿，以便给自己足够的时间来审阅它，接收对您的想法的反馈，并让我们相信您的项目会成功。该提案应该正式和准确。撰写时，请仅包含与您的背景和项目相关的详细信息和信息。

The proposal should include the following elements:
该提案应包括以下内容：

- Problem description - do you understand the scope and complexity of the project?
  问题描述——你了解项目的范围和复杂性吗？

- Motivation - why is this problem relevant to the project? How will the project benefit from your contributions?
  动机——为什么这个问题与项目相关？该项目将如何从您的贡献中受益？

- Related work - compare the proposed solution to other existing solutions in other projects.
  相关工作——将提议的解决方案与其他项目中的其他现有解决方案进行比较。

- Proposed solution - best described as a sequence of milestones.
  建议的解决方案 - 最好描述为一系列里程碑。

Proposal Template

Student proposals should follow the template below.
学生提案应遵循以下模板。

Demonstrate your skills 展示你的技能

Each project defines an entry task that should be completed before the deadline of the application period. This task is used to verify that you can work with frameworks and accomplish basic goals. A proposal from a student who cannot demonstrate basic proficiency in programming languages and toolchains needed for the project will not be considered.
每个项目都定义了一个入口任务，需要在申请期的截止日期前完成。此任务用于验证您是否可以使用框架并完成基本目标。无法证明项目所需的编程语言和工具链基本熟练的学生的提案将不予考虑。

Personal Information 个人信息

It should include your personal details, information on your current degree (university, program, dates), and contact information.
它应该包括您的个人详细信息、您当前学位的信息（大学、课程、日期）和联系信息。

Please include your availability: how much time do you plan to spend on your GSoC project? Are there other factors that might impact your availability, such as part-time work, exams, summer school, university courses?
请包括您的可用性：您计划在 GSoC 项目上花费多少时间？是否有其他因素可能会影响您的可用性，例如兼职工作、考试、暑期学校、大学课程？

Experience

Please summarize and describe your education and experience, including skills acquired at the university and practical experience, such as large university projects, internships, jobs, open-source contributions, publications, etc.
请总结并描述您的教育和经历，包括在大学获得的技能和实践经验，例如大型大学项目、实习、工作、开源贡献、出版物等。

Please describe briefly your experience level for each skill required for the selected project.
请简要描述您对所选项目所需的每项技能的经验水平。

Please answer the following questions:
请回答以下问题：

- Why did you choose this project? What made you interested in our organization?
  你为什么选择这个项目？是什么让您对我们的组织感兴趣？

- What do you wish to accomplish during GSoC?
  你希望在 GSoC 期间完成什么？

- Have you worked with the required technologies before? If yes, then in what scope? Which projects?
  您以前使用过所需的技术吗？如果是，那么在什么范围内？哪些项目？

- Did you contribute to open-source projects before? Have you ever made a pull request, helped to fix an issue, or developed a project?
  您之前是否为开源项目做出过贡献？您是否曾提出拉取请求、帮助解决问题或开发项目？

Project Proposal

- The proposal should consist of a sequence of milestones. Each milestone should clearly state an achievable goal and a tentative description of a code package that will be implemented for this milestone.
  该提案应包括一系列里程碑。每个里程碑都应该清楚地说明一个可实现的目标和一个将为此里程碑实现的代码包的暂定描述。

- Each milestone should specify a set of tests that could validate it.
  每个里程碑都应该指定一组可以验证它的测试。

- Based on the milestones, propose a project timeline aligned with the GSoC dates. Your timeline should specify milestones that you will deliver for each GSoC evaluation.
  根据里程碑，提出与 GSoC 日期一致的项目时间表。您的时间表应指定您将为每个 GSoC 评估交付的里程碑。