高级数据结构和算法分析

Advanced Data Structures and Algorithm Analysis

主讲教师： 丁尧相

Instructor: Yao-Xiang Ding

E-mail: yxding@zju.edu.cn

Homepage: https://yaoxiangding.github.io

Course website:

https://yaoxiangding.github.io/ADS-FW-2024

PTA bind key:

215250

基本信息：

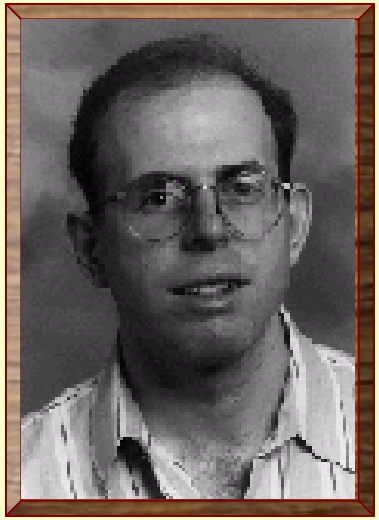
Lecture Time:
Tuesday 3-5 (every week), 紫金港西2-412

Teacher: 丁尧相 **Yao-Xiang Ding**
Office: 519 Meng Minwei Building, Zijingang Campus

E-Mail: yxding@zju.edu.cn
Office hours: Tuesday 14:00-17:00
(Please make appointment on Ding Ding or E-Mail. For unexpected visits, I have to apologize for the possible absence.)

TA: 秦子昂 **Ziang Qin**
E-Mail: qinziang-zju@163.com

📖 教材



Data Structures and Algorithm Analysis in C

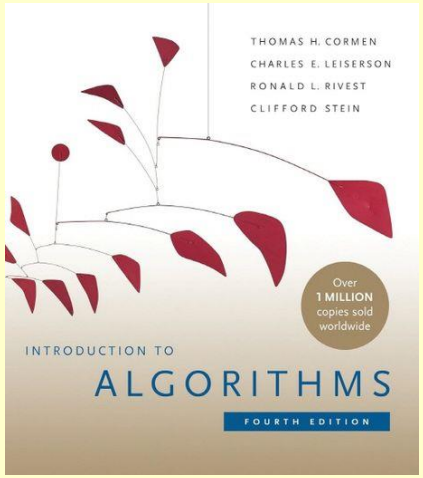
(2nd Edition)

Mark Allen Weiss

陈 越 改编

Email: weiss@fiu.edu

📖 教材



Introduction to Algorithms

(4th Edition)

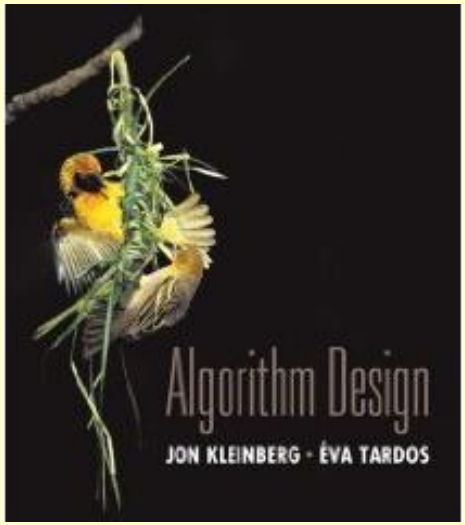
Thomas H. Cormen, Charles E. Leiserson, Ronald L. Rivest and Clifford Stein

The MIT Press, 2022

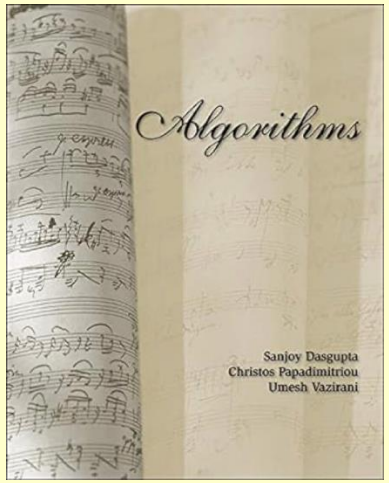
Algorithm Design

Jon Kleinberg, Eva Tardos

Addison Wesley, 2005



📖 参考读物



Algorithms

S. Dasgupta, C. H. Papadimitriou, and U. V. Vazirani

McGraw-Hill Education, 2006

Algorithms

Robert Sedgewick and Kevin Wayne

Addison Wesley, 2010

课程评分方法 (Grading Policies)

Homework (10)

Discussions (10)

Research Project (30)

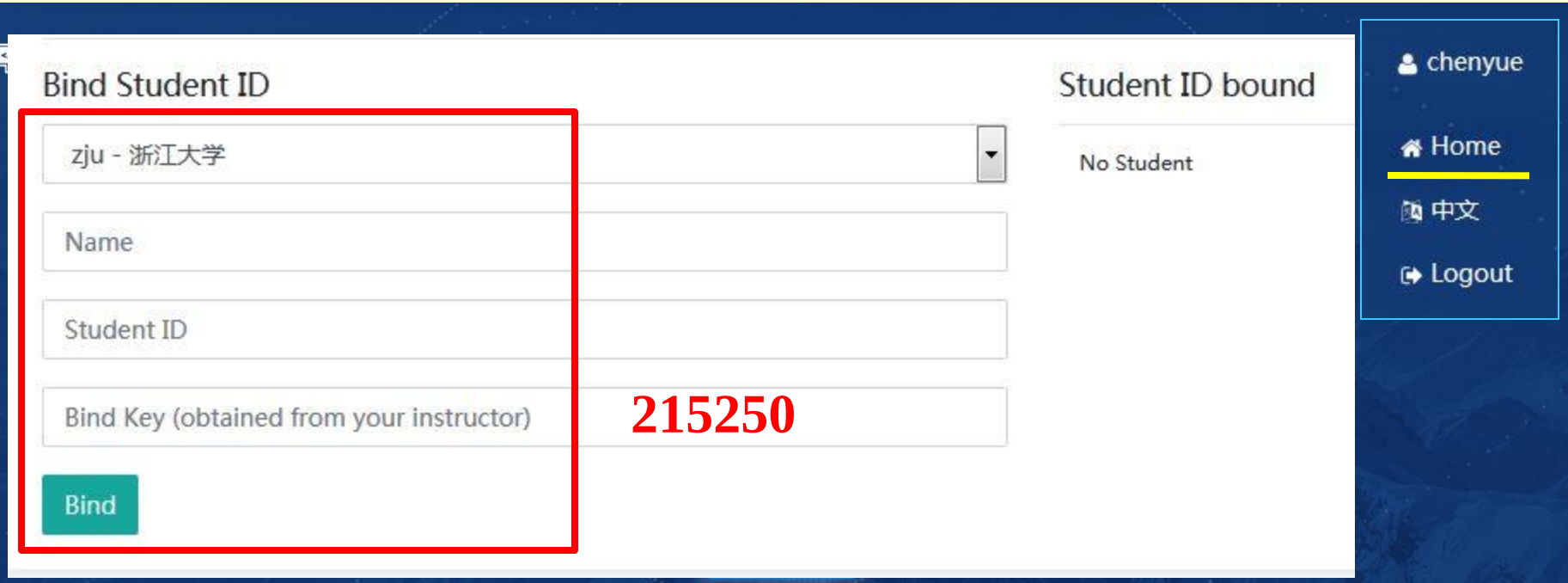
MidTerm (10*)

Total ≤ 60 (up to 5 bonus within 60)

Final Exam (40*)

Homework Assignments (10)

- Register and login at https://pintia.cn/
- Bind your student ID with bind key
- Enter



Research Projects (30)

- Done in groups of <=3
- choose 2 out of 8 topics
- Report (15+15 points)
- Submit before the exam week
- Follow the style file

Discussions (10)

- **Done in the same group to projects**
- **2 times to submit course suggestions (in pdf), each scores 5, including:**
  - **Content want to learn**
  - **Hard parts for more explanations**
  - **Hard problems to solve**
  - **Suggestions on teaching**
  - **…**

Bonus scores (5)

- **One of the Tasks:**
  - **bonus problems within projects (group)**
  - **on-course project presentations (group)**
  - **on-course topic sharing (individual)**
  - **technical notes (individual)**
  - **+1 completion of projects (group)**
- **Grading: no-pass (0) , pass (3), good job (5)**
- **Doing multiple tasks will receive the maximum score for one of the tasks.**

Project Representation

- One week for one project in order
- Should also complete the project report
- In-class presentation (10~15 minutes)
- The speaker can be chosen freely in the group. While the contributions of the members in the projects should be clarified.
- If there are many volunteers, at most 3 groups will be chosen to give presentations with first-come-first-serve.

Topic Sharing

- **Two times: 1 for data structure 2 for algorithm**
- **In-class presentation (10-15 minutes)**
- **Topic can be chosen freely while need to be pre-submitted and approved.**
- **If there are many volunteers, at most 3 topics will be chosen to give presentations with first-come-first-serve.**

Technical notes

- **Similar to topic sharing but without representations.**
- **Need to be >= 5 page pdf report.**
- **Submit before week 16.**
- **Will be distributed to classmates.**
- **Maybe harder to get the good-job score unless indeed well done (:-P).**