



COL 106: Data-structures

Instructors :

Mausam (mausam@cse.iitd.ac.in) – F slot

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Course web-page:

www.cse.iitd.ac.in/~mausam/col106/winter2021

Logistics

- Timings: Tue/Thu/Fri 11-12 (F slot), Tue/Fri 3:30-5 (AD slot)
- Piazza, teaching assistants details on web-site



Data-structures

Teaching assistants:

TAs will help resolving any problems regarding the course :

coding, understanding a particular concept, assignments, etc.

Practice sessions: ~once in a week

Evaluations components

- Minor Exams : 20% each
- Assignments : 20+2% (~4 + 1 Java lab)
- Quizzes (announced): 8%
- Major exam : 30%

Audit criteria: as per senate rules, but pass grade in major exam is necessary.

Programming Assignments

- 4 programming assignments
 - Must be done alone
 - late policy (penalty of 10% every day)
 - up to three days late

Grading and Academic Integrity

■ Academic Integrity

- Cheating → negative penalty (and possibly more)

- Exception: if one person/team is identified as cheater

- Non-cheater gets a zero

■ Collaboration is good!!! Cheating is bad!!!

Who is a cheater?

- No sharing of part-code

- No written/soft copy notes



Goal for this week

- Complete Java lab!



What is this course about ?

- Data-structures : how to organize data

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- Data-structures : how to organize data
- Example case: English dictionary

What will I learn?

- How to argue formally about a data-structure.
- Complexity of each operation
- How to compare two data-structures
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Topics

Arrays

Lists

Abstract Data Types, object oriented concepts

Stacks, Queues

Trees : Binary trees, Balanced trees, B-trees

Strings : Tries, Matching algorithms

Sorting

Hashing

Graphs