



11:05 AM Mon 2 Aug

Class 2 08 02

45%

203 course administration

syllabus

Class 2 08 02

- ① What are DS
- ② What are Algorithms
- ③ What is the model of computing system we will have?

Amit Chintamani Awekar

+115

MS

M

GS

YS

YENUGONDA SUMA S...

DS

DHRUV SOMANI



VISHAL MEENA



Amit Chintamani Awekar

HY

HIMANSHU YADAV

ST



11:06 AM Mon 2 Aug

45%



Class 2 08 02



203 course administration

syllabus

Class 2 08 02



① What problem to solve

② How to solve the problem

③ How we arrange data

Amit Chintamani Awekar

+118

MS

M

GS

YS

YENUGONDA SUMA S...

DS

DHURUV SOMANI



VISHAL MEENA



Amit Chintamani Awekar

HY

HIMANSHU YADAV

ST



11:08 AM Mon 2 Aug

Class 2 08 02

45%

203 course administration

syllabus

Class 2 08 02

① What problem to solve *Wisdom*

② How to solve the problem *Algorithms*

③ How we arrange data *DS*

Amit Chintamani Awekar

+118

MS

M

GS

YS

YENUGONDA SUMA S...

DS

DHURUV SOMANI



VISHAL MEENA



Amit Chintamani Awekar

HY

HIMANSHU YADAV

ST

11:10 AM Mon 2 Aug

Class 2 08 02

🔍 📌 📄 ✖️ ⋮

x 203 course administration

x syllabus

x Class 2 08 02



- ① What problem to solve *Wisdom*
- ② How to solve the problem *Algorithms*
- ③ How we arrange data *DS*

Sorting :

Selection

Bubble

Insertion

Merge

Quick

Heap

Array

Linked list

Binary tree

BST

AVL

Amit Chintamani Awekar

+118

M

GS

YS

DS

DHRUV SOMANI 🎤



VISHAL MEENA 🎤



Amit Chintamani Awekar

HY

HIMANSHU YADAV 🎤



SIDDHARTH HEMANT... 🎤

ST

11:24 AM Mon 2 Aug

Class 2 08 02

203 course administration

syllabus

Class 2 08 02

Arrange: Number

Array

Linked list

BST

AVL

Hash table

B tree

B<sup>+</sup> tree

Add (5)

Add (7)

Add (9)

Search (6, 10) → 7

Which operations are frequent

Add

Delete

Search  
a single valueSearch  
a range  
of values

Amit Chintamani Awekar

+119



HY



Amit Chintamani Awekar



PRANAV NAIR



PANDYA PRANSHU



PRANSHU KANDOI



GAURAV KUMAR

ST



11:33 AM Mon 2 Aug



x

203 course administration



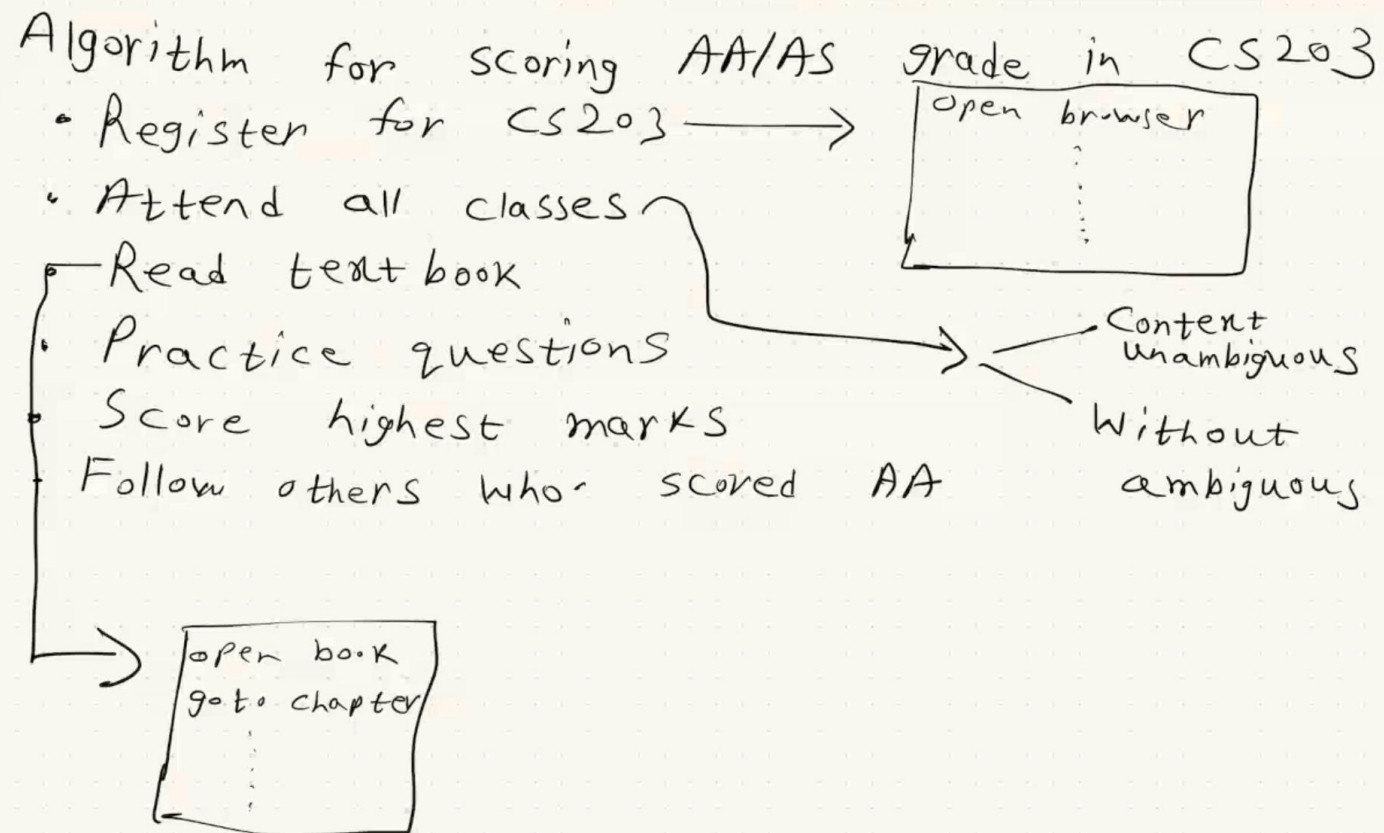
GHONGADE ROHIT KANBA

yes sir

38%



Class 2 08 02



Amit Chintamani Awekar

+121



UK



Amit Chintamani Awekar

HK

HRIDYANSHU KUMAR



PANDYA PRANSHU

VG

VIRAJ GOYANKA

SR

SHUBHRADEEP ROY

ST



11:38 AM Mon 2 Aug

Class 2 08 02

37%

203 course administration

syllabus

Class 2 08 02

Characteristics of algorithm

- Correct

2, 5  $\rightarrow$  Sum  $\rightarrow$  7

- Unambiguous

Amit Chintamani Awekar

+122



UK

HK



Amit Chintamani Awekar



PANDYA PRANSHU

VG

VIRAJ GOYANKA

SR

SHUBHRADEEP ROY

KS

KANDULA SRAVYA

ST

11:44 AM Mon 2 Aug

Class 2 08 02

🔍 📌 📄 ✖️ ⋮

x 203 course administration

x syllabus

x Class 2 08 02



Characteristics of algorithm

- Correct

2, 5 → Sum → 7

- Unambiguous

---

Nice to have

- Efficiency

Time

Memory

Network

I/O

Resource

- Biased

- Ease of understanding

- Ease of coding

- Partial out is available

- Ease of parallelization / distribution

Amit Chintamani Awekar

+120



UK

HK



Amit Chintamani Awekar



PANDYA PRANSHU

VG

VIRAJ GOYANKA

SR

SHUBHRADEEP ROY

KS

KANDULA SRAVYA

ST



11:53 AM Mon 2 Aug

Class 2 08 02

33%

203 course administration

syllabus

Class 2 08 02

# Real-world computing systems

- Memory hierarchy
- Multicore Processor
- Varied complexity

Add Multiply Exponentiation



8 of 9

Amit Chintamani Awekar

+119

UK

HK



VG

VIRAJ GOYNKA



Amit Chintamani Awekar

SR

SHUBHRADEEP ROY

KS

KANDULA SRAVYA

PK

PRADEEP KUMAR

ST



11:53 AM Mon 2 Aug

Class 2 08 02

33%

203 course administration

syllabus

Class 2 08 02

## Random Access Machine

- No memory hierarchy
- Only single instruction at a time
- All instructions require same time

Amit Chintamani Awekar

+119

UK

HK



VG

VIRAJ GOYANKA



Amit Chintamani Awekar

SR

SHUBHRADEEP ROY

KS

KANDULA SRAVYA

PK

PRADEEP KUMAR

ST