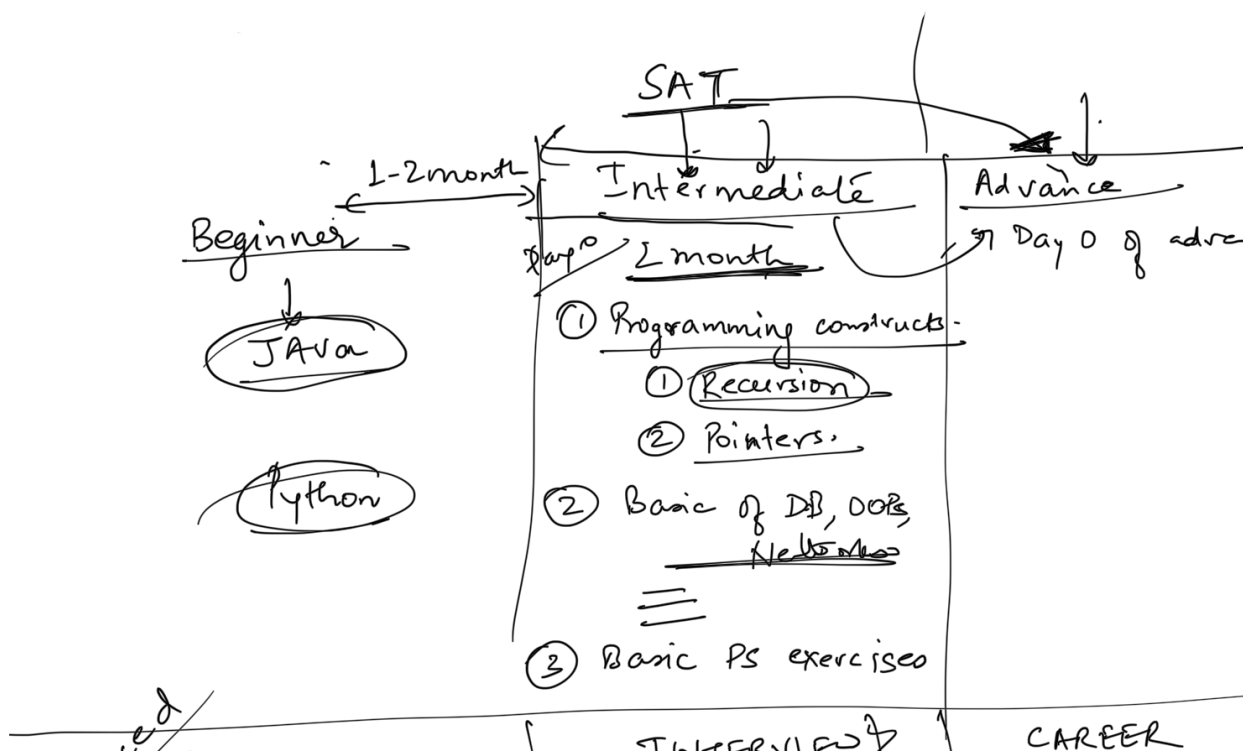


DARE TO DREAM

- ① Hard work → no shortcuts ← YOUR
- ② Right Direction of work ← SCALE
- ③ Consistency ← YOU

$$(1.01)^{365} = 37.1$$

$$1^{365} = 1$$



Advance TOPICS

① Problem solving DSA

Super important

3-5 months

2-3 weeks
NI

② CS fundamentals
OS DB, Computer Networks

6-7 weeks

DESIGN

1) Low level design
OOPS based design

Important for interview
Design patterns
SOLID
Case studies with feedback

2) System design
High level design

2+ years of exp
6+ case studies
6-8 weeks

- ① Efficiency as a habit
- ② Coding accuracy & productivity
- ③ 2x cases → good vs great

Very important

Super impor

SDE 2+
↓
System de

Fullstack

Backend

Data Engineer

end to end
complicated dynamic
frontend
basic backend

- ① Concurrency/multi-threaded
- ② High load
- ③ Distributed services

Hadoop
Hive
Spark
Map Reduce

Electives

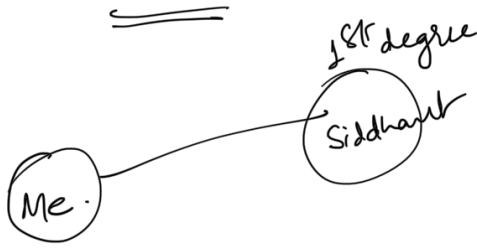
① Advance DSA

competitive programmer

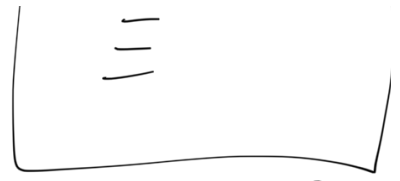
② Advance HLD

③ Product Man for software engineers

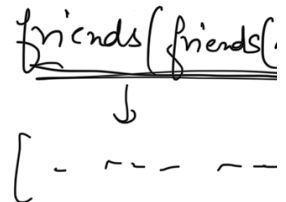
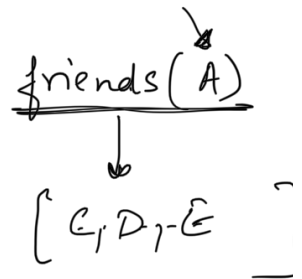
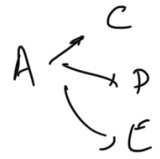
DSA



Siddhant { 1st, 2nd, 3rd, ... }



1, 2, 3, 4, 4+
 $\leftarrow \text{degree-of-sep}(A, B) \right\}$

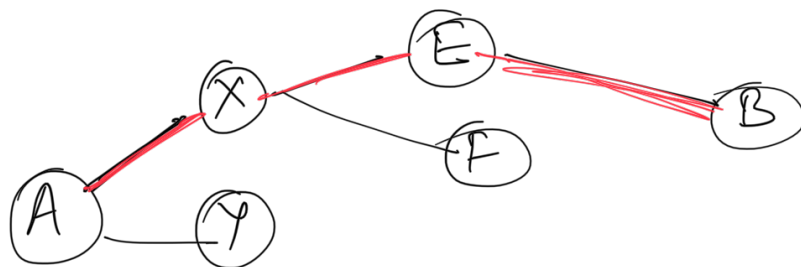


2 billion users
 $\frac{2 * 10^9 \text{ users/nodes.}}{2 * 10^9 * 1000 \text{ edges}} = \underline{2 \text{ trillion edges.}}$
 $\left\{ i \rightarrow 1 \text{ to } 10^8 : \text{cnt++} \right\} \leftarrow \underline{1 \text{ second}}$

(A)

(B)

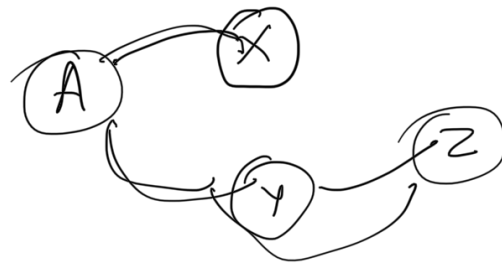
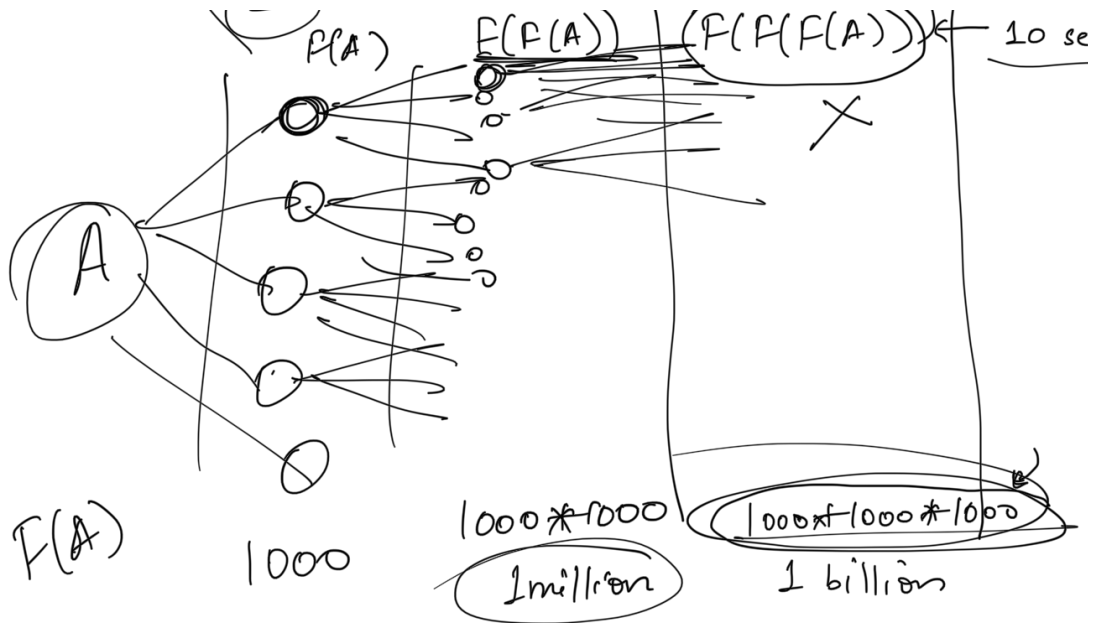
deg-of-sep $\rightarrow 1, 2, 3, 4, \textcircled{4+}$



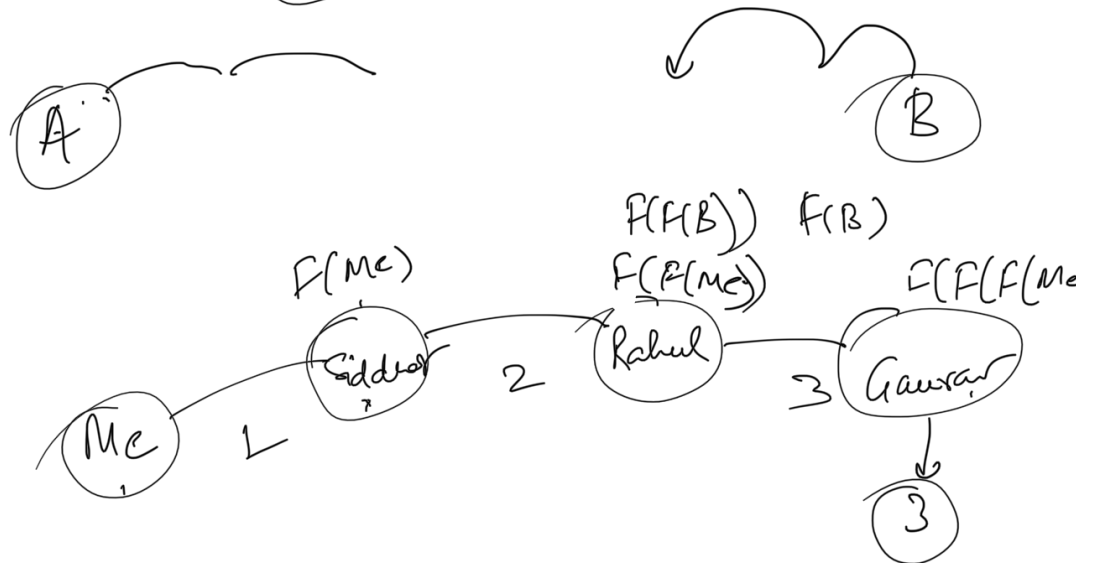
(3)

(2)

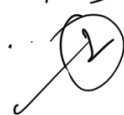
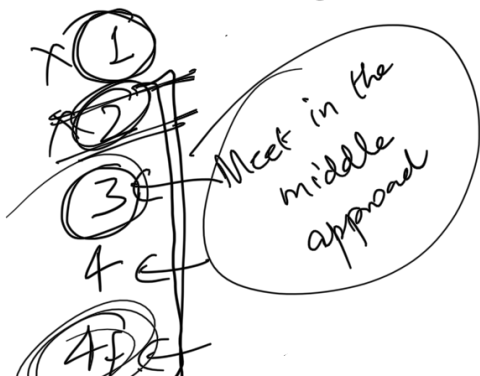




$$O(\underline{V} + \underline{E})$$



Ans deg-of-sep (A, B)



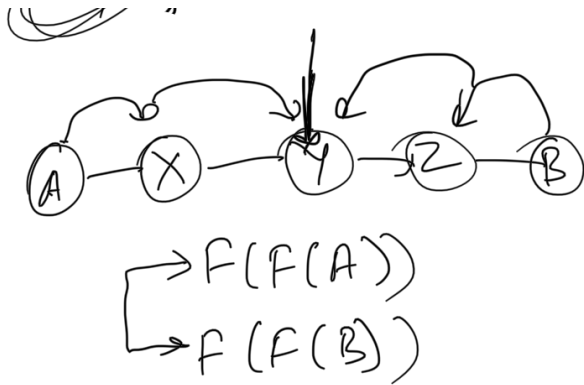
if B in friends(A):
Return 1

Else

if intersect ($F(A)$, $F(B)$)
return 2

Else

if intersect ($F(F(A))$, $F(F(B))$)



if intersect (F(F(A)), F(F(B)))
 return 3
 Else
 if intersect (F(F(A)), F(F(B)))
 return 4
 Else
 return 4 +

Binary search

- ① Hashing
- ② Hashing

HashMap
 HashTable
 Index

osmosis 118, 210, 315

intersect (list1, list2) → true / false

for x in list1:

- ① Binary search after sorting
- ② Index L2, then Search
 ↳ Hashmap
 Hashset

3 live classes a week

↳ 7.5 hours a week
 ↳ 7.5* hours on prac

15 hours weekly

↓
 ~ 2 hours everyday

