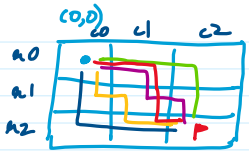
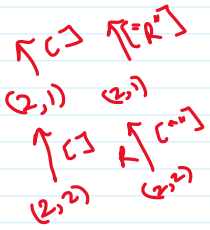
1) MAZE PATH
↳ 2D MATRIX

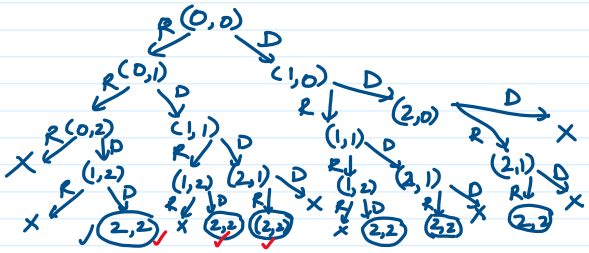


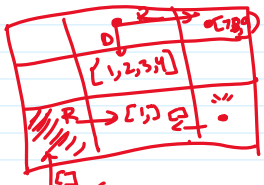
R, D

R 3

RRDD -
RDRD -
RDDR -
DRRD -
DRDR -
DDRR -







R 1
D[ ]

[D1, D2, D3, D4] + [R7, R8, R9]

---

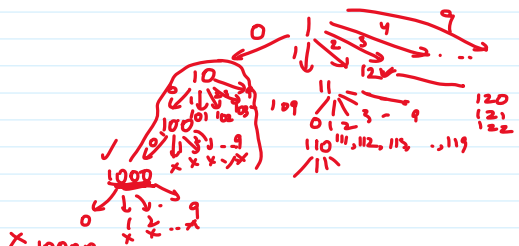
1 - 1000 number Print Lexicographically a b aab abb

1
10
100
1000
11
110
111
112
113
119
12
120
121
129
13
130
199
2
20
200

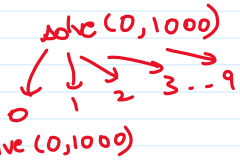
101
102
109

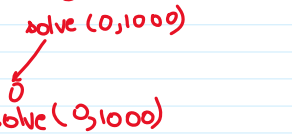
aab
ab
abb

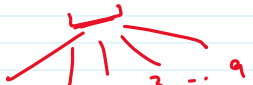
1, 10, 100, 1000, 101



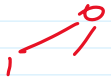
0

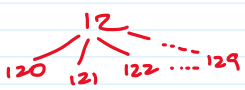




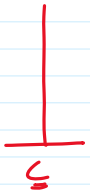


00X
01 = 1





Towers Of Hanoi

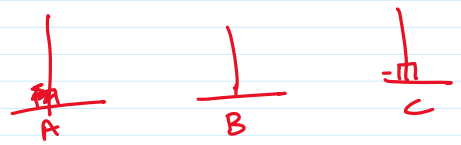


Butt 00

→ X

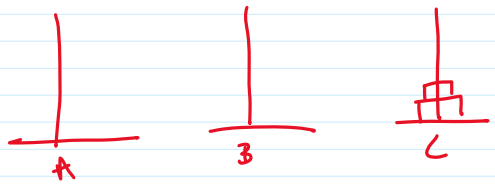
→ 1 Disk at a time

n=1



A to C

n=2

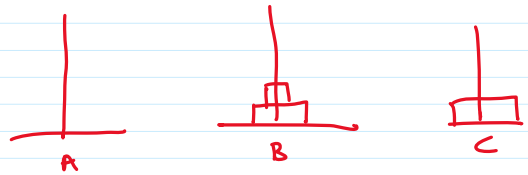


A to B

A to C

B to C

n=3



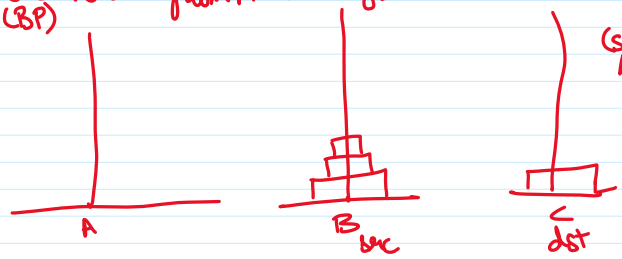
Move 2 disk from A to B

A to C

Move 2 disk from B to C

⇒ Move 4 disk from A to C using B

n=4 (BP)



(SP) Move 3 A to B using C

A to C

(SP) Move 3 B to C using A

BP n=m from (A) src to (C) dst using (B) hlp

↳ (n-1) from (A) src to (B) hlp using (C) dst

A to C

src to dst

(n-1) from B to C using A

Move from A to C
Move from A to B
Move from C to B
Move from A to C
Move from B to A
Move from B to C
Move from A to C

---

① "abc"

↳ Print all permutations

AL ✓

abc acb

bac bca

cab cba

BP. abc

↳ ch: a

SP: bc → [bc, cb]

bc
0 1 2

bc → b c

cb → c b

abc
bac
bca

acb
cab
cba

Palindrome Partitioning

"nitin" → "n" + "iti" + "n"

→ "nitin"

→ "n" + "i" + "t" + "i" + "n"

n|iti|n

n|i|t|i|n

nitin

① ni | tin

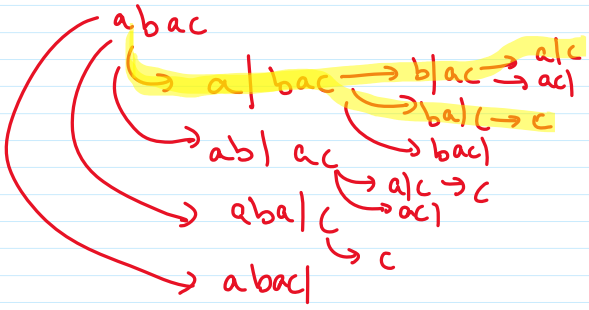
Steps:

1) Make all possible cuts

2) Filter the req cuts

aba c → a | b | a | c

aba | c



a|b|a|c ✓ ☺

a|ba|c

"nitin"

"n", "i", "t", "i", "n"

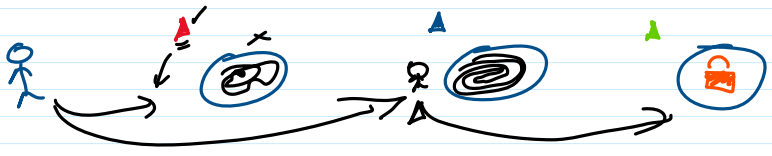
[n, i, t, i, nan]

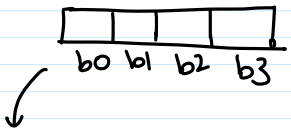
n|iti|n|ian|

Kaam ☺

Undo

Kaam + Undo ⇒ Backtracking





2C

b0 b1
b1 b3
b2 b0

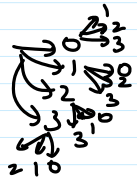
2

B.POV → ✓, ✗

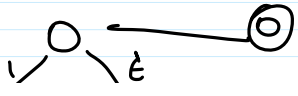
C.POV → 0,1,2,3 / 1,2,3

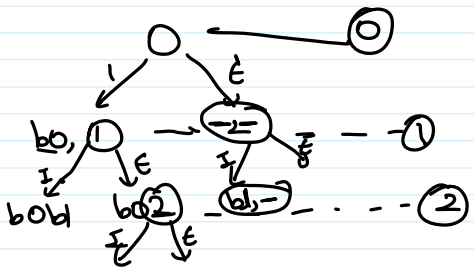
m boxes
n chairs

Arrange?



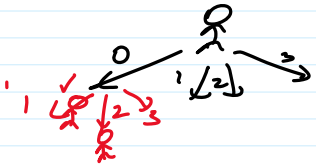
01
02
03
10
12
13
20
21





vid [, _ , _ , _]

0, 1, 2, 3



b0 b1 ✓
b0 b2 ✓

(11) b1 b0 X

b1 b2 ✓
b1 b3 ✓

Box combination