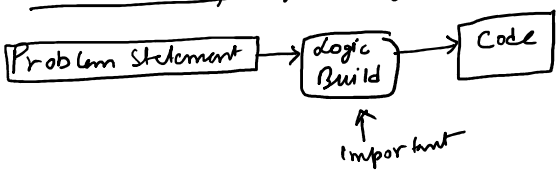
Fundamentals of Programming



Q// Shop. Buy chocolates. 1 chocolate = Re 1.
Scheme → 3 wrappers = 1 chocolate.
Rs 30 in your pocket. Max-no-of-chocolates you can eat?

Ans- (44)

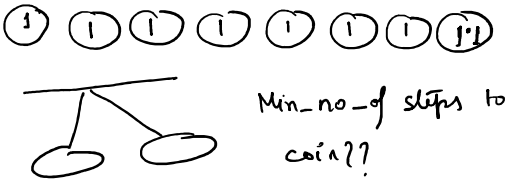
Rs 30 → 30 chocolates → 30 wrappers.

30/3 = 10 chocolates → 10 wrappers

10/3 = 3 chocolates → 3 wrappers + 1 wrapper

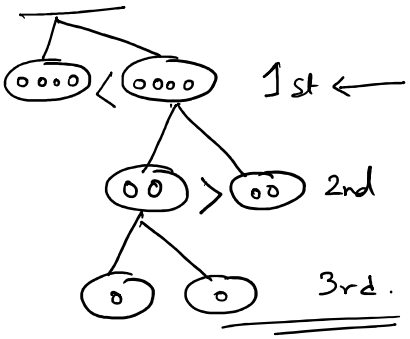
4/3 = 1 chocolate → 1 + 1 = 2 wrappers

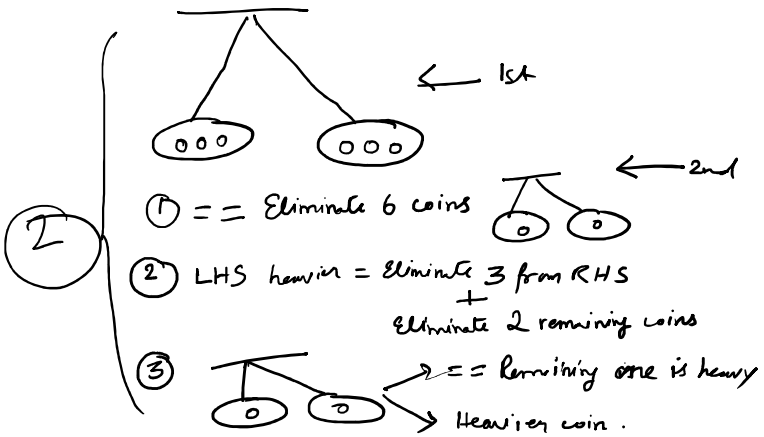
(44)

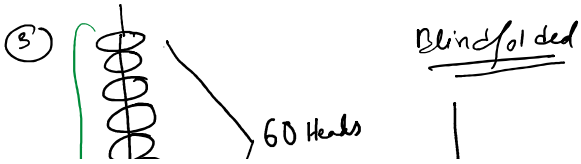


Min-no-of steps to find heaviest coin??

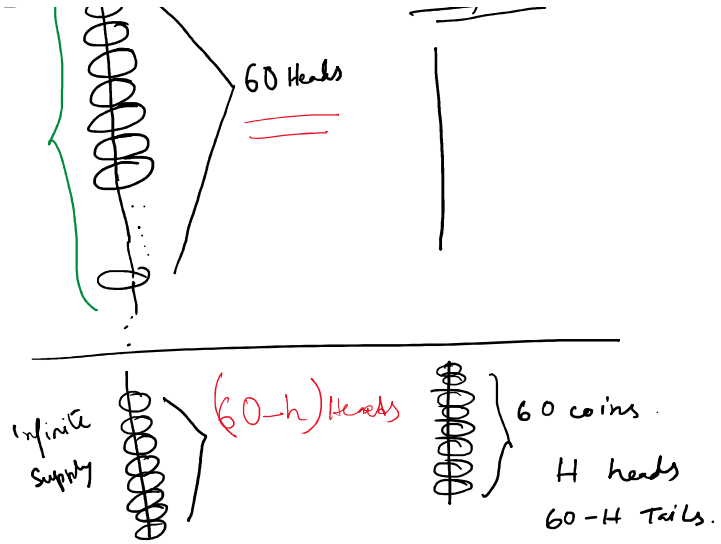
Ans- (3) (2)







Blindfolded



⇓ Ulta

60-h heads

H → Tails.

Course – Design & Analysis of Algorithms

Algorithm – steps by step unambiguous instructions to solve a problem.

Data structure – Linear – Store elements linearly / orderly → array, LL, stacks, queue

Non-Linear – non linearly / orderly. → Tree, Graph

Data Types – int, float, bool, char, long

Primitive

User-Defined – class, structure (C)

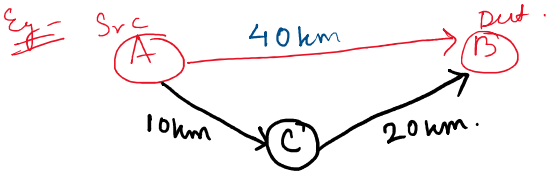
Why algorithm needs analysis ??

① Check if algo works properly / not.

② Check if algo produces correct result / not.

③ Optimisation – Time, Space

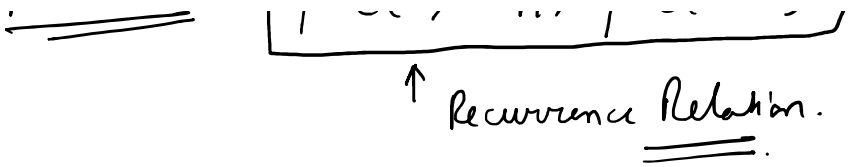
Eg:



A to C to B.

10 + 20 = 30 km.

Factorial = $fac(n) = n \times fac(n-1)$


Recurrence Relation.