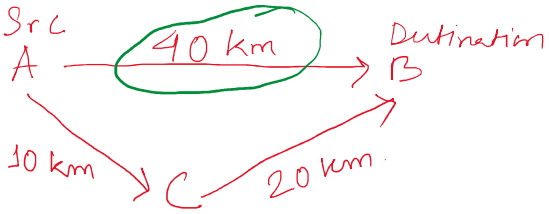
Factorial – $fac(n) = n \times fac(n-1)$. Recurrence Relation.

Design and Analysis of Algorithms

Algorithm – Step by step instructions → unambiguous.

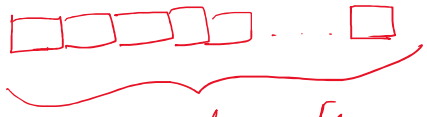
Analysis – Algorithm → (1) Check if algorithm is correct.
(2) Efficiency – Time, Space.

Eg –



A → C → B = 10 + 20 = 30 km

Data Structure – Linear → Store elements linearly, but can be accessed non-linearly
Eg – Array, LL, Stack, queue.
Non-Linear → Eg – Trees, Graph.

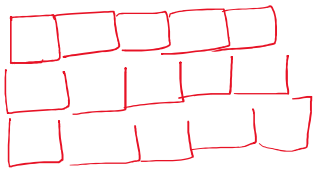


10 elements.

100000 elements.

Traversal time → 100000 > 10 → TC → O(N).

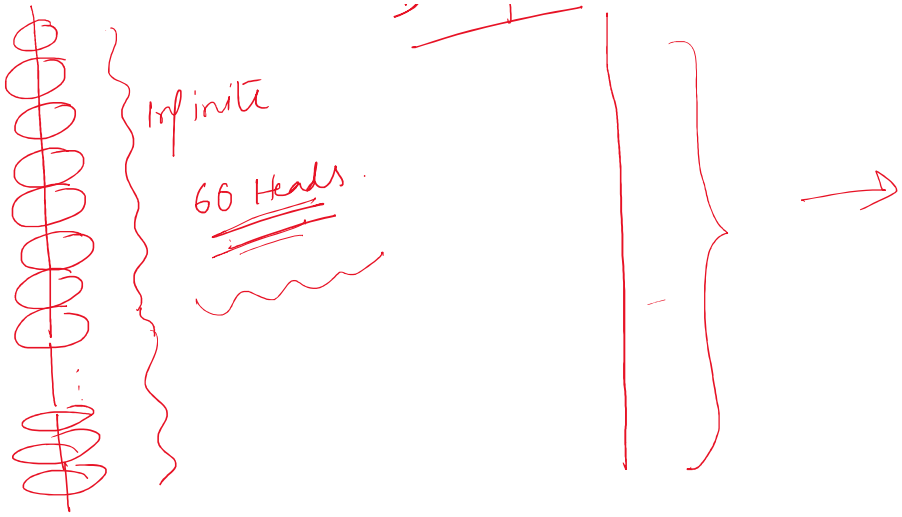
① N ↑, T.C ↑, Space complexity ↑.



r → No. of Rows
c → No. of columns
→ T.C O(r x c)

① r ↑, c ↑, TC ↑, SC ↑.

Blindfold


Infinite
66 Heads