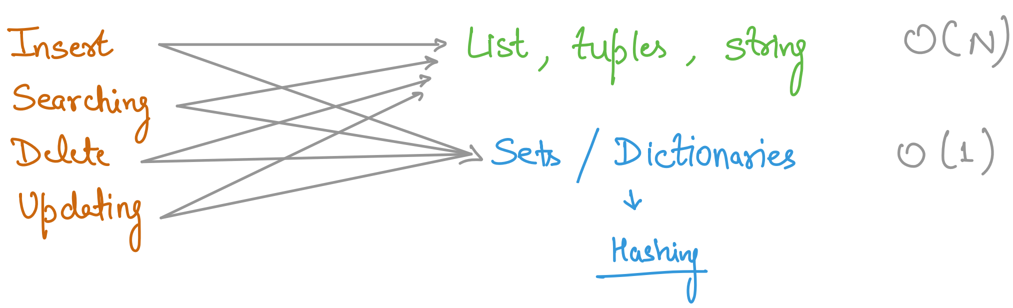
Problem Solving 2

Agenda

i) Hashing
ii) Merge Sort
iii) Some questions.

★ Hashing :

- Sets
- Dict



16
8 } collision
2

(set) a =

O(1)

Hash function : It is a formula / function which will give unique value corresponding to the object that we want to store

⇒ a.add(8) ⟶ 8 will be passed in hash function
⟶ 4

⇒ search(8) ⟶ 8 will be passed in hash function
⟶ 4

menu

Burger	:	50
Pizza	:	210
Pasta	:	200
Maggi	:	30
shake	:	60, 70
Ice Cream	:	40

★ Merge Sort

Merging + sorting

→ Divide & conquer algorithm. (1/2)

→ Breaks down the problem into multiple subproblems recursively until they become easy to solve.

→ Sub problems are combined to get sol^n for our original problem.

★ TC ⇒ O(n log n)

★ Approach

i) Split your list into half.

ii) Call merge sort on each half to sort them recursively.

iii) Merge both sorted halves into one sorted array.

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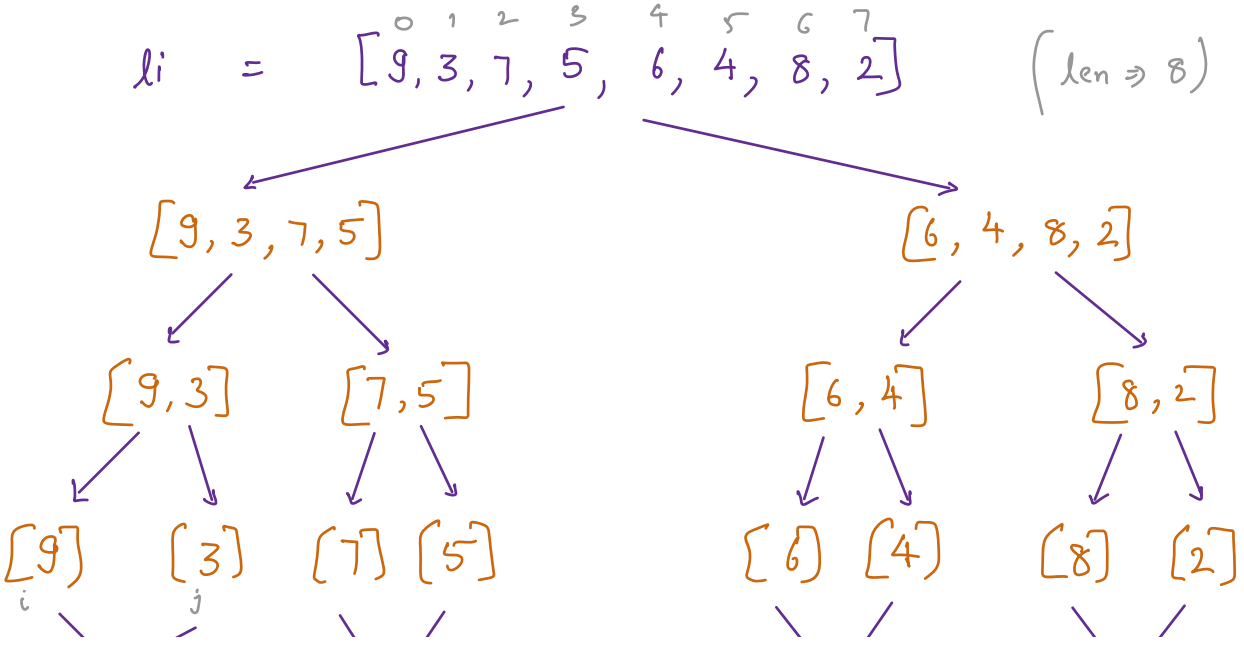
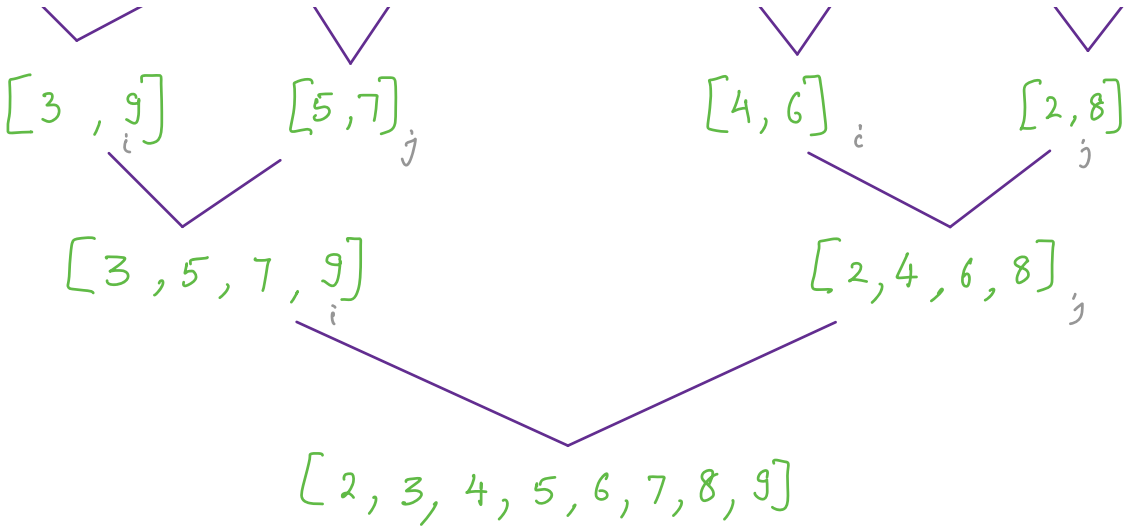
li = [9, 3, 7, 5, 6, 4, 8, 2] (len ⇒ 8)





Base condition :

if len(lst) <= 1

return lst

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n = 0 # O(1)

for i in range(10):

n += i # O(1)

HW : Reverse a digit using Recursion