Recitation-2 : Notes (Data Structures)

① Big (O) Notation.

Possible ways to judge a program —

① Time it takes to run. — ? on who's
machine

② Flops it takes — In which
Language ?

Algorithm ≠ program

We want a way to verify "quality" of
a language — irrespective of other factors.

eg O(1) → five elemt. lookup.

Array size	time	
5	5 sec	
10	5 sec	O(1)
10000	5 sec	
10^{30}	5 sec	

eg $O(n)$ 2 sum

Array Size	Time
1	1 sec
10	10 sec
1000	1000 sec
10^{40}	10^{40} sec

time

array size
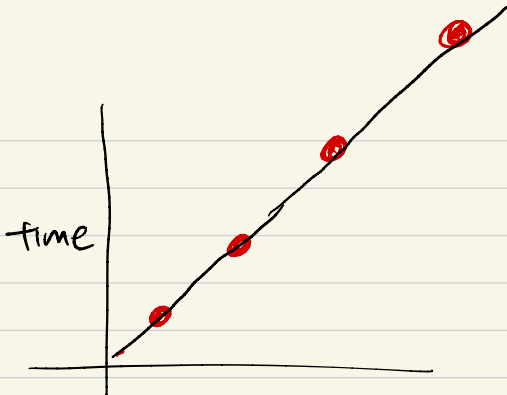
eg $O(\log n) \rightarrow$ Binary search

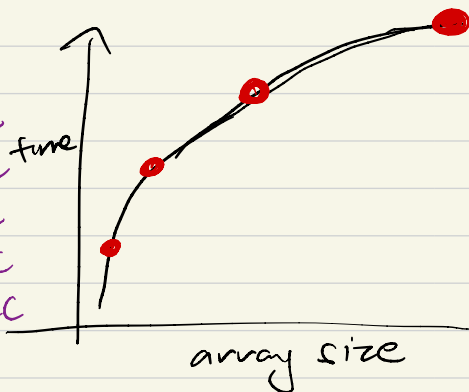| Array Size	Time
10	5 sec
100	10 sec
1000	20 sec
	80 sec
10^{10}	100 sec

time

array size

Strings and Arrays :—

Two Pointer Algo

Sliding Window

Prefix Sum

— when the array is sorted

— when you are looking to get combination of `2` elements

—" Subarray" questions

— If Q's has a :-
  * Constraint
  * Measure

— when Qs is looking to add things / difference