Catalog

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	Rect was to 1 5 1 1 1 20
1	Best, worst and Expected Case
1	Come lines 110 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
	sometimes we get lucky in life Exams Cancelled when
	you were not prepared, surprise fest when you were
	prepared etc. > best case
	Sometimes we get lucky in life Exams cancelled when You were not prepared, surprise test when you were prepared etc. => Best case Some times we get unlucky. Questions you never prepared asked in exams, rain during sports period etc. => worst case
_	asked in exams, vain during sports period etc. => worst case
_	
Y.	Dul overall the life remains balance with the mixture
_	But overall the life remains balance with the mixture of lucky and unlucky times => Expected case.
_	Analysis of a search algorithm
	Analysis of a search algorithm Consider an array which is sorted in increasing order
4.1	phint of 7 18 28 50 180 10 10
	January 1012 7 7 1 18 28 50 180 Jan 10
_	
	We have to search a given number in this array and report whether its present in the array or not.
TV	and report whether its present in the array or not.
Ni.	All ships had been all the same of the sam
	Algo 1 -> Start from first element until an element
_	greater than or equal to the number to be searched is found
11.00	searched 15 found
_	Al a class with the first and the set set
_	Algo 2 -> Check whether the first or the last element is
-	equal to the number. If not find the number
_	between these two elements (center of the array).
9	If the center element is greater than the
r	number to be searched, repeat the process for
-	first half else repeat for second half until
-	The number is found.

-	
	Analysina Alas 1 hotods I had textus took took
	Analyzing Algo 1 If we really get lucky, the first eliment of the array might furn out to be the element we are searching for Hence we made just one Comparison.
The A	array might turn out to be the element we
W.	are gearching for Hence we made just one
	Comparison.
hors	The mic figures and actually hunting and maken by
Males by	Best case complexity = O(1)
100	
ilte	I We are really unlucky, the element we are
	If we are really unlucky, the element we are Searching for might be the last one.
	Worst case complexity = 0 (m)
Rohm	
1,322.00	for calculating Average case time, we sum the list of all the possible case's runtime and divide it
	of all the possible case's runtime and divide it
	with the total number of cases.
- 0	I We have to search a dissi number in this arker
	Sometimes Calculation of overage
	Case fine gets very complicated
1	Markey All 2 de la la mort Marc - 1 apid
- 30	The way at the like the list of ment will
	If we get really lucky the first element will
2.	was tal it is took at addition and in a cold
Tind/neu	Best case Complexity = 0(1)
(yakia	It to reliant I things to the south point in
M	If we get unlucky we will have to keep dividing
++1 2	the array into halves until we get a single
Julyan	element (the array gets finished)
	- traval at interest off

	$\neg \neg$	
-	1	
_		_

What $log(n)$? What is that
$log(n) \rightarrow Number of times you need to half the array of size n before it gets exhausted log 8 = 3 \implies 8 \rightarrow \frac{4}{2} \rightarrow \frac{2}{2} \rightarrow lant break anymore.$
1+1+1
$ og 4 = 2 \Rightarrow \frac{4}{2} \rightarrow \frac{2}{2} \rightarrow Cant break anymere.$
Log n simply means how many time I need to divide n units such that we cannot divide them (into holves) anymore.
Space Complexity Time is not the only thing we worry about while analyzing algorithms. Space is equally important.
Size of input
If a function calls itself recursively n times its space complexity is $O(n)$
Greating an array of size $n \to O(n)$ space \longrightarrow size of input

	ESIS	EBGH
	Quick Ruy - Calculate Space Compl- function which calculates factorial number n	N JANIEN C
→ →	Why cant we calculate Complexity in second Not everyone's Computer is equally powerf Asymptotic analysis is the measure of grows with input	conds? ul how time (runtime)
	num hand ha to the state of the	= N go!
dirii.	u means how county time I need to	Jania on Land
	at the area there are worky about the	Anthrong .
7	mating to the first security that with	V
	(a) or finished	Spark (pa

Average Case

