March 2018

Sun	Mon	Tue	Wed	Thu	Fri	Sat
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

February 2018

Thursday 1

What is Time Complexity

Amount of time taken by an algorithm to run as a function of length of input.

OR

How much consume CPU's time or How much time gave by the CPU to complete the execution of function

Actually Time Complexity is nothing about actual time But it is CPU operations.

Friday 2

Note - To find Time Complexity, Hum hamesha Worst Case ko lekar kar challenge.

Why to study T & C Complexity

1) Good Computer engineer always think about the complexity of code written by him.

2) Resource are limited.

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3 2018 February
Saturday

- Measures algorithm to make efficient programs.
- Asked by interviewer after every solution you give.

Ex → AlgoA same — CPU High Processing

AlgoB same — CPU low Processing

This is better than AlgoA because it take low involvement of CPU

4 Sunday

What is space Complexity.

Amount of space taken by an algorithm to run as a function of length of input.

① `int a=1; //variable`
`int b[5]; // array`

O(1) constant space Complexity

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February 2018

Monday 5

2 Dynamic memory Allocation

```
int n; cin>>n;

int *b = new int[n];
// Print array b
for(int i=0; i<n; i++)
  {
    cout<<b[i];
  }
```

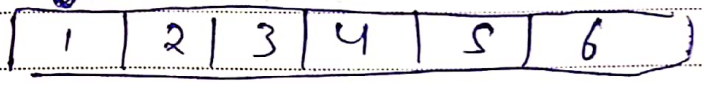
O(n) → space Complexity

Tuesday 6

Unit to Represent Complexity

Big O : Upper bound
Theta O : Average case.
Omega n : Lower bound.

eg. Search



item found !

O(1)

this represent n, lower bound. kam se kam time.

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7 2018 February
Wednesday

item search 6

This represent worst case.
jyada se jyada time kitna.

O(n)

Q- $f(n) = 2n^2 + 3n$

Always focus on upper Bound

$O(n^2)$ → Time Complexity

8 Thursday

Q- $f(n) = 4n^4 + 3n^3$ $O(n^4)$ TC

upper bound

- $O(N^n)$
- $O(N!)$
- $O(2^n)$
- $O(N^3)$
- $O(N^2)$
- $O(n \log n)$
- $O(n)$
- $O(\log n)$
- $O(1)$

Upar se Niche aane par TC better hoti hai.

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