Complexity Analysis:

$O(n)$

```
int n;
cin >> n;
int sum = 0;
for (int i=0; i<n; i++) {
    sum += i + 1;

}
```

$1 \sec \longrightarrow 10^8$ সংখ্যক execution

$n = 1000$

$n = 10^6 \rightarrow step = 20$

step	j
0	1
1	2
2	4
3	8
4	16
5	32
6	64
7	128
8	256
9	512
10	1024

$j \leq n$

$j = 2^{step}$

$\Rightarrow n = 2^{step}$

$\Rightarrow \log_2(n) = \log_2(2^{step})$

$\Rightarrow \boxed{\log_2(n) = step}$

$$O\left(N \log_2 N\right)$$

$t = 5$

$t = 1 \longrightarrow N = 100000$

$t = 1$
$N = 10^5 \quad \sim \quad N = 10^5$

17×10^5

$\rightarrow 2 \times 10^5$

$\sum N \leq 10^5$

Solution

$cc\ \underset{\curlywedge}{\overset{\text{o}}{\ }}$

(A) - - - - - - - - - - - - - (B)

Solution

(C)