

ASSIGNMENT DAY ONE
SABAREESH VISHWANATH KR.

1. What is the time complexity of following code.

```
int a = 0;
for (int i = 0; i < n; i++)
{
    for (int j = n; j > i; j--)
    {
        a = a + i + j;
    }
}
```

$O(n)$

$O(n)$

Ans:

Time Complexity is $O(n^2)$.

2. What is the time complexity of the following code?

```
int count = 0;
for (int i = 1; i <= n; i = i * 2)
{
    for (int j = 1; j <= i; j++)
    {
        count = count + 1;
    }
}
```

$O(\log n)$

$O(n)$

Executes n times.

Time Complexity $\Rightarrow O(n \log n)$.