

```
void function(int n)
```

```
{
```

```
    int count = 0;
```

```
    for (int i = n/2; i <= n; i++)  $\longrightarrow$  n times.
```

```
        for (int j = 1; j <= n; j *= 2)  $\longrightarrow$  log n times.
```

```
            for (int k = 1; k <= j; k *= 2)  $\longrightarrow$  log log n times.
```

```
                count++;
```

```
}
```

The first for loop is running n times.

$i = 1, 2, 3, 4, 5 \dots n/2 \rightarrow \frac{n}{2} \text{ times } O(n/2) \in O(n)$

The second for loop connected first for loop and j value increases 2^a

$1, 2^1, 2^2, 2^3, 2^4 \dots (2^k = n) \log n = k \Rightarrow O(\log n)$

The third for loop connected first and second loop and k values increases 2^a

$1, 2^1, 2^2 \dots (2^k = \log n) \Rightarrow k = \log \log n \Rightarrow O(\log \log n)$

Time complexity $\Rightarrow n \cdot \log n \cdot (\log \log n)$