In Implementation 1 recursive method is used.

So Let,

$$T(n) = 2T(n-1) + C$$

$$= 4T(n-2) + 3C$$

$$= 8T(n-3) + 7C$$

$$= 2^K T(n-K) + (2^K - 1)C \quad \cdots \text{(I)}$$

Now,

$$n - K = 0$$

$$\therefore n = K \quad \cdots \text{(II)}$$

Using eqn (I) and (II),

$$T(n) = 2^n T(0) + (2^n - 1)c$$

$$= 2^n(1+c) - c$$

$$\approx 2^n$$

$\therefore$ for Implementation-1 time complexity is $O(2^n)$

In Implementation-2 there is only one "for loop" used.

So time complexity is $O(n)$

As $O(2^n)$ is an exponential function and $O(n)$ is a linear function, Implementation-2 is better than Implementation-1