

Aggregate method:

Total cost in n operations

$$= 2^1 * n + 2^2 * \frac{n}{2} + \dots + 2^d * \frac{n}{2^{d-1}}$$

$= 2 * d * n \leq 2 * \lg(n) * n$ (because the bit bigger than $\lg(n)$ will not be flipped in n operations)

=>total cost of the sequence is $O(n \log n)$

=>Amortized cost per operation is $O(n \log n) / n = O(\log n)$