

ADA mini homework 12

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assume we have to add to number  $n$

$$\text{first digit total cost} = 2^1 \times \frac{\log n}{2^0}$$

$$\text{second digit total cost} = 2^2 \times \frac{\log n}{2^1}$$

$$\text{m-th digit total cost} = 2^m \times \frac{\log n}{2^{m-1}}$$

$$\text{total cost} = O(n \log n)$$

$$\text{cost per increment} = O(\log n)$$