

1) @ Use the aggregate method we consider the total cost across all the insertions and calculate the average cost per insertion

Accounting method:-

In this method we assign each insertion a higher "amortized" cost the store "credits" that pay for future resizing costs.

Pseudo Code:-

```
for i = 1 to n
  if table is full
    new-table = create new table
    with size then copy elements from
    old table to new table
    table = new table
    insert element i into table
    initial charge = 0
  for i = 1 to n
    charge + = 2
  total charge = 2 * n = O(n)
  total credit = n * 2m ... n/2 * m = O(n)
```

Amortized Cost per Insertion

$$= \text{total} / n$$

$$= O(n/n)$$

$$= O(1)$$

Runtime per Insertion $O(1)$

total time $O(n)$.