

1. Map Lookup Operation:

- Maps use a **lookup operation** to find whether a key already exists in the map.

2. Default Value for Keys:

- When a key is entering in the map for the first time the map inserts the key with a **default value 0 for int type keys**.

3. Updating Values:

- **The ++ operator is responsible for incrementing the values of the key.**
- For example:
 - If the value for key = 2 is 0, // 2 entering firstly
freq_map[2]++ updates it to 1. // key = 2 , value = 1
 - If the value for key = 2 is 1, // 2 entering second time
freq_map[2]++ updates it to 2. // so here only value get increments by 1 so key = 2 , value = 2

4. Efficiency:

- Maps use data structures like Red-Black Trees to efficiently perform lookup, insertion, and update operations in $O(\log n)$ time.

Key : stores unique data // original data

Values : info about keys // metadata