

## Hash Search

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>




Using the hashing function:

$$b = \text{val} \% \text{tablesize};$$

Insert the following numbers:

23 30 49 20 31 53 45 18 60

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## Order of the Hash Search

- In general, the performance of the hash search is dependent on the length of the small lists of values, rather than the size of the overall list. This length in turn is dependent on the fraction of occupied locations. For example, a table that is 80% full will require around 3 compares to find a number. At this level or below, the algorithm is  $O(c)$ !
- As the table gets full, the small lists get longer, and the algorithm begins to look more like  $O(n)$ .
- As a practical matter, good performance occurs when the table is kept no more than 80% full.

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