

Problem 1

1. Creating hash function only relate to the first element of the array might leads to collision if we have another array start with the same element
2. If the array only have 1 or 2 element, it probably will cause collision for sure
3. It's quite reliable but there's still a chance to cause collision if the array shares same element with another.

Reliability: $3 > 2 > 1$

Better hash function:

$$\text{hash} = (\text{hash} \times \text{hash_base} + \text{array}[i]) \% m$$

generating hash value from this hash function won't have ^{two many} collision as long as the table is big enough even if we have two identical array.

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Problem 2

