1. hashing. $O(n)$ expected.

2. reduce to integer sorting. after sorting, only need $O(n)$ time by monotone pointers.
for integer sorting:
$O(n\sqrt{\log\log n})$ randomized [2].
$O(n\log\log n)$ deterministic [3].

3. for the lower bound, $\Omega(n\log n)$ in the degree-d algebraic decision tree model [1]. we can also reduce to set intersection, i.e. deciding whether two sets $\{x_1,\ldots,x_n\}$ and $\{y_1,\ldots,y_n\}$ intersect, by negating the array.

References

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