

3. Guidelines

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Checklist:

- 1) Good use of data structures
- 2) Avoid Code Re-use | Do not repeat yourself (DRY)
- 3) Less than $O(n^2)$. Avoid nested loops
 - 2 separate loops is better
- 4) Low space-complexity
 - Recursion can cause stack overflow, copying large arrays may exceed memory.

(Guidelines (not always applicable)):

- 1) Hashmaps is often used to improve time complexity
- 2) Binary Search Tree (BST) is great for sorted arrays w/ $O(\log N)$ time
 - Divide & conquer - divide a data set into smaller chunks & repeating a process w/ a subset of data
- 3) Try setting inputs
- 4) Hashmaps and precomputed data (i.e. sorted arrays) can optimize time well
- 5) Time & space tradeoff. Sometimes storing extra state in memory can improve runtime
 - creating Hashmaps uses more space, but can greatly optimize time