

This is known as the longest common substring (LCS, not to be confused with the other LCS) problem, also known as the longest common factor problem.

note: a subarray is required to be contiguous.

1. binary search+hashing.  $O(n \log n)$ .

2. suffix tree.  $O(n)$ .

$O(n)$  solutions: [\[2\]](#), [\[1\]](#).

## References

- [1] Lucas Chi and Kwong Hui. Color set size problem with applications to string matching. In *Annual Symposium on Combinatorial Pattern Matching*, pages 230–243. Springer, 1992.
- [2] Dan Gusfield. Algorithms on strings, trees, and sequences: Computer science and computational biology. *Acm Sigact News*, 28(4):41–60, 1997.