

Greedy && String Matching

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Why do we need to do a formal proof for greedy algorithm ?

To proof that the schedule produced by the algorithm is optimal

- To find measures to proof the algorithm is as good as other algorithms.
- And review that those measures mean that the algorithm must produce an optimal solution.

When can the Rabin Karp time complexity can be worse or the same as the naive algorithm ?

A.- The time complexity of worst scenarios of Rabin Karp is $O((n-m+1)*m)$ Naive $O(n)$ Worst.- $O(m*n)$ and the case is when the pattern is repeated at the addition of the hash for example

text .- “abbaabbabababa”

pattern .- “ab”

the addition of the hash of “ab” will be the same of “ba” so this is an example case where $O((n-m+1)*m)$ is used