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IDE Q&A GeeksQuiz

CATEGORY ARCHIVES: STRINGS

Questions related to strings

Manacher's Algorithm – Linear Time Longest Palindromic Substring – Part 1

December 16, 2014

Given a string, find the longest substring which is palindrome. if the given string is "forgeeksskeegfor", the output should be "geeksskeeg"

10 Comments Category: Strings

Check a given sentence for a given set of simple grammer rules

November 30, 2014

A simple sentence if syntactically correct if it fulfills given rules. The following are given rules. 1. Sentence must start with a Uppercase character (e.g. Noun/ I/ We/ He etc.)

14 Comments Category: Strings

Suffix Tree Application 5 – Longest Common Substring

November 18, 2014

Given two strings X and Y, find the Longest Common Substring of X and Y. Naive [O(N*M2)] and Dynamic Programming [O(N*M)] approaches are already discussed here. In this article, we will discuss a linear time approach to find LCS using suffix tree (The 5th Suffix Tree Application). Here we will build generalized suffix tree for… Read More »

22 Comments Category: Strings Tags: Pattern Searching

Generalized Suffix Tree 1

November 17, 2014

In earlier suffix tree articles, we created suffix tree for one string and then we queried that tree for substring check, searching all patterns, longest repeated substring and built suffix array (All linear time operations). There are lots of other problems where multiple strings are involved. e.g. pattern searching in a text file or dictionary,… Read More »

0 Comments Category: Strings Tags: Pattern Searching

Suffix Tree Application 4 – Build Linear Time Suffix Array

November 14, 2014

Given a string, build it's Suffix Array We have already discussed following two ways of building suffix array: Naive O(n2Logn) algorithm Enhanced O(nLogn) algorithm Please go through these to have the basic understanding. Here we will see how to build suffix array in linear time using suffix tree. As a prerequisite, we must know how… Read More »

4 Comments Category: Strings Tags: Pattern Searching

Suffix Tree Application 3 – Longest Repeated Substring

Given a text string, find Longest Repeated Substring in the text. If there are more than one Longest Repeated Substrings, get any one of them. Longest Repeated Substring in GEEKSFORGEEKS is: GEEKS Longest Repeated Substring in AAAAAAAAAA is: AAAAAAAAA Longest Repeated Substring in ABCDEFG is: No repeated substring Longest Repeated Substring in ABABABA is: ABABA… Read More »

1 Comment Category: Strings Tags: Pattern Searching

Suffix Tree Application 2 – Searching All Patterns

November 13, 2014

Given a text string and a pattern string, find all occurrences of the pattern in string. Few pattern searching algorithms (KMP, Rabin-Karp, Naive Algorithm, Finite Automata) are already discussed, which can be used for this check. Here we will discuss suffix tree based algorithm. In the 1st Suffix Tree Application (Substring Check), we saw how… Read More »

6 Comments Category: Strings Tags: Pattern Searching

Suffix Tree Application 1 – Substring Check

November 8, 2014

Given a text string and a pattern string, check if pattern exists in text or not. Few pattern searching algorithms (KMP, Rabin-Karp, Naive Algorithm, Finite Automata) are already discussed, which can be used for this check. Here we will discuss suffix tree based algorithm. As a prerequisite, we must know how to build a suffix… Read More »

0 Comments Category: Strings Tags: Pattern Searching

Ukkonen's Suffix Tree Construction – Part 6

November 4, 2014

This article is continuation of following five articles: Ukkonen's Suffix Tree Construction – Part 1 Ukkonen's Suffix Tree Construction – Part 2

10 Comments Category: Strings Tags: Pattern Searching

Ukkonen's Suffix Tree Construction – Part 5

This article is continuation of following four articles: Ukkonen's Suffix Tree Construction – Part 1 Ukkonen's Suffix Tree Construction – Part 2

1 Comment Category: Strings Tags: Pattern Searching

Ukkonen's Suffix Tree Construction – Part 4

November 1, 2014

This article is continuation of following three articles: Ukkonen's Suffix Tree Construction – Part 1 Ukkonen's Suffix Tree Construction – Part 2 Ukkonen's Suffix Tree Construction – Part 3

2 Comments Category: Strings Tags: Pattern Searching

Ukkonen's Suffix Tree Construction – Part 3

October 30, 2014

This article is continuation of following two articles: Ukkonen's Suffix Tree Construction – Part 1 Ukkonen's Suffix Tree Construction – Part 2

3 Comments Category: Strings Tags: Pattern Searching

Ukkonen's Suffix Tree Construction – Part 2

October 27, 2014

In Ukkonen's Suffix Tree Construction – Part 1, we have seen high level Ukkonen's Algorithm. This 2nd part is continuation of Part 1.

7 Comments Category: Strings Tags: Pattern Searching

Ukkonen's Suffix Tree Construction – Part 1

October 24, 2014

Suffix Tree is very useful in numerous string processing and computational biology problems.

8 Comments Category: Strings Tags: Pattern Searching

Given two strings, find if first string is a subsequence of second

October 12, 2014

Given two strings str1 and str2, find if str1 is a subsequence of str2. A subsequence is a sequence that can be derived from another sequence by

37 Comments Category: Strings

Pattern Searching using a Trie of all Suffixes

August 29, 2014

Problem Statement: Given a text txt[0..n-1] and a pattern pat[0..m-1], write a function search(char pat[], char txt[]) that prints all occurrences of pat[] in txt[]. You may assume that n > m.

14 Comments Category: Strings Tags: Pattern Searching

Given an array of strings, find if the strings can be chained to form a circle

Given an array of strings, find if the given strings can be chained to form a circle.

July 23, 2014

110 Comments Category: Graph Strings

Given a sorted dictionary of an alien language, find order of characters

July 22, 2014

Given a sorted dictionary (array of words) of an alien language, find order of characters in the language.

53 Comments Category: Graph Strings

Anagram Substring Search (Or Search for all permutations)

July 19, 2014

Given a text txt[0..n-1] and a pattern pat[0..m-1], write a function search(char pat[], char txt[]) that prints all occurrences of pat[] and its permutations (or anagrams) in txt[]. You may assume that n > m.

58 Comments Category: Strings Tags: Pattern Searching

Find Excel column name from a given column number

July 18, 2014

MS Excel columns has a pattern like A, B, C, … ,Z, AA, AB, AC,…. ,AZ, BA, BB, … ZZ, AAA, AAB ….. etc. In other words, column 1 is named as "A", column 2 as "B", column 27 as "AA".

42 Comments Category: Strings