

Bag intersections to create trees from bigger bags

Source: <http://coding.derkeiler.com/Archive/General/comp.theory/2005-11/msg00181.html>

- *From:* "Hiren Joshi" <hirenj@xxxxxxxxx>
 - *Date:* 22 Nov 2005 06:18:23 -0800
-

Hi

I'm currently pondering the problem of how to count the number of isomorphic graphs (well trees actually) that you will obtain if you intersect bags of the nodes with the tree.

Each bag basically contains all the nodes in a given sub-tree, and conceptually speaking, each bag tells me that all of it's components must be connected to each other through some path. The connections would be acyclic.

The reasoning I'm thinking is that if a bag represents a particular sub-tree, then if you keep iteratively intersecting the bags with the tree, you will keep introducing restrictions as to the number of nodes that a node can connect to, and you will eventually end up with a graph looking like the original tree.

A further question I'm trying to answer is how many bags are needed so that you can uniquely reconstruct a tree from the intersection of each of the bags. Does anyone have any pointers to papers or textbooks, or google keywords that might help me find an answer to these problems?

I'm really just looking for good starting points to dig into this problem, because I'm lacking the knowledge in graph theory to be able to properly describe this, and I need to do that before I can even think about solving it.

Hiren

.

- Prev by Date: [*rb-tree creation from sorted sequence*](#)
- Next by Date: [*hash,index, dictionary*](#)
- Previous by thread: [*rb-tree creation from sorted sequence*](#)
- Next by thread: [*hash,index, dictionary*](#)
- Index(es):
 - ◆ [*Date*](#)

Bag intersections to create trees from bigger bags

◆ *Thread*