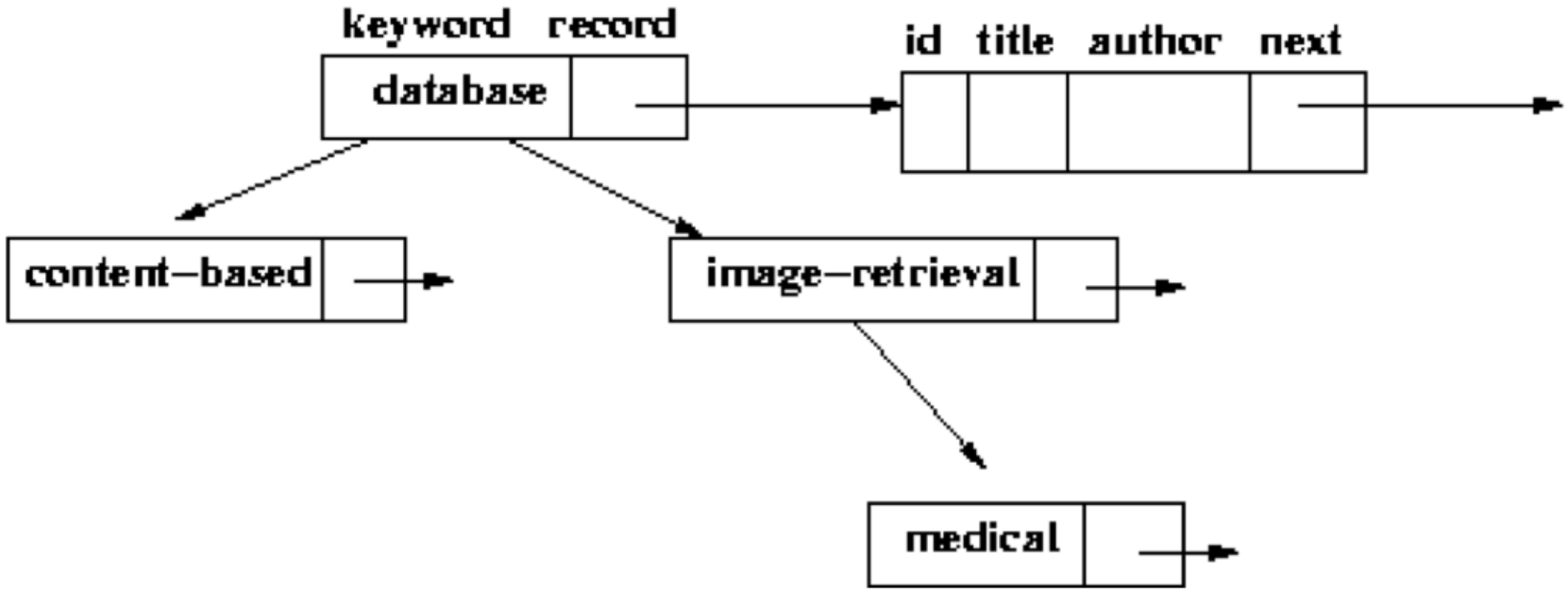
TCSS 342 - Data Structures

Assignment 2 – Keyword Search

Due Monday 13th July

The Concept

- Binary Search Tree
- Keys are keywords
- Values are lists of records for technical papers having that keyword



The Details

- You will implement a standard binary search tree.
- The keys will be keywords that come in a file along with associated technical papers.
- The values associated with the keys will be records for those technical papers.
- Since each key word may have multiple technical papers, the value at a node will be a list of all the papers that have this keyword.
- So you will also implement linked lists (or modify your existing linked list from assignment 1),which will operate like stacks, putting new records at the beginning.

What is provided to you

- Record.java
  - the record class (you should not change it)
- bst.java
  - the methods you need to implement and some that is given you.
- test.java
  - a partial test that creates the tree (with your methods), retrieves a record, prints the tree in inorder, deletes 3 keywords, prints it again. You should add more tests to it.
- datafile.txt
  - the data for the tree

Methods to implement (5 points each)

- Node Constructor()
- Node update(Record r) adds Record r to a list
- insert(String keyword, FileData fd) creates the Record r for FileData fd, finds or inserts the keyword in the tree, and updates.
- boolean contains(String keyword) determines if keyword is in the tree
- get_records(String keyword) returns the list of Records for keyword
- delete(String keyword) removes keyword from tree

Extra Credits (upto 10 points)

- Insertion into AVL Trees
- (First you still do binary search trees with all functionality)