File Structure: Assignment #2

100 points

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Notes:

1. *Cheaters will be graded by –ve points , Don't copy any code from anywhere ..*
2. *Submit your code to through Acadox only.*
3. *Submit only one source file, the name of the file MUST have your IDs and Group Name,*
4. *Due Date **19/4/2017 10:30 PM***
5. *Group = max 2 students, team must be from the same lab*

We want to store data about printers in a file, any printer has the following attributes

Char [30]: ID
Char [30]: Model
Char[50]: description
Float : price

- Save the data about printer in the following format: **delimited fields, length indicator records.**
- You should develop the following indexes
  1. **Primary index using the ID**
  2. **Secondary index using Model**
  3. **Secondary index using price.**

the main welcome screen is below.

1) Add New printer
2) Update printer
3) Delete printer
4) Search for a printer using ID (using primary Index)
5) Search for a printer using model (using secondary Index)
6) Search for a printer using certain model and certain price
7) Compact File
8) Visualize File
9) Exit

Please Enter Your Choice:

Important notes:

- All indexes are sorted ascending
- *No need to use a status flag to check that indexes are up-to-date.*
- *But, you MUST implement secondary indexes using inverted list technique.*
- *Regarding update operation, if the new size if different (smaller or bigger) than the old record's size, then make delete then insert operations*
- *Assume that the primary key is not updated.*
- Searching in indexes is performed using binary search.
- To delete a record just put an * in the beginning of that record. (no need for avail list implementation)
- All operations (add, delete, update) will affect indexes.
- Search operations will use indexes (primary or secondary)
- To visualize a file use - for non-deleted record, * for deleted ones, example of the visualization could be like this [---**---] this means that the file has **3** records after that there are two deleted records followed by another 3 records.
- File compaction means removing of all deleted records from the file, i,e, defragmentation
- After file compaction, the file visualization should have no stars.
- Bind all secondary indexes with the primary index, don't bind them by addresses directly.
- *Assume any other information you need.*