File Structures Mini Project Progress

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INDEX

INTRODUCTION

File Structure is a combination of representations for

- data in files
- operation to access the data

File Structure is the organization of data in secondary storage structures such as disks

PROJECT Title we chose

“Coaching Institute Management System”

Why we chose this project?

We want to do a project that will be helpful in the real world. Coaching Institutions have been plummeting in growth due to the rise of academically ambitious students in India. The infrastructure size of these coaching academies range from small independent teachers to sizeable institutes like a mini school. Thus, it becomes necessary for them keep track of data of their students and teachers. We are hopeful to implement the project that will solve the problem using the concepts of file structures

Programming Language We'll Use

C++

We have decided to use C++ language to write the code. The reason being it has powerful Standard Template Library and Header Files to manipulate and operate the files. Also since we are learning the lab programs in C++, it would beneficial for us to implement the code

ROADMAP

COACHING INSTITUE Mini Project (Road Map)

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A Coaching Institute will have TWO disparate sets of data to keep a log of
1) STUDENTS
2) TEACHERS

We will be needing to implement following details

*	Create Structure/class for STUDENT Data → Name, USN, RegistrationID, Age, Fee_status, Mobile, Batch	Create Structure/class for TEACHER Data → Name, TeacherID, Pay, Qualification, Batch, Mobile, Age
*	Create INDEX structure	Create INDEX structure

FUNCTIONS

*	Retrieve_Record_Student() This is required retreive details and data of student	Retrieve_Record_Teacher()
*	Search_Record_Student() → Search by ID → Search by Index	Search_Record_Teacher()
*	Delete_Record_Student() Deletes the data and Updates the index	Delete_Record_Teacher()
*	Update_Record_Student() Update necessary field details	Update_Record_Teacher()
*	Sort_Student() Sorts index of student data	Sort_Teacher()

* int main() → User Friendly Interface to show project
  → Get user input and records
  → Organize it using functions defined

Concepts Employed

We will make use of the file structures concept of “Indexing” in our project. There are different types of indexing.

A primary index is built for a file (the data file) sorted on its key field, and itself is another sorted file (the index file) whose records (index records) are of fixed-length with two fields. The first field is of the same data type as the ordering key field of the data file, and the second field is a pointer to a disk block.

A secondary index is a sorted file of records (either fixed-length or variable-length) with two fields. The first field is of the same data type as an indexing field, the second field is either a block pointer or a record pointer. A file may have more than one secondary index

Conclusion

This is our Project Progress so far. Our code is half completed. We are confident to finish it within a week and test it. We will add more details and features along the way if we deem its necessary