Student record system

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INTRODUCTION

A student record system is essential for managing student data such as roll number, name, and subject marks efficiently. This project demonstrates a simple record system using arrays for storing basic student details and linked lists for flexible updates to subject marks.

OBJECTIVES

- To create a system that stores and manages student data.
- To sort students based on total marks using an array.
- To demonstrate dynamic data storage using a linked list.
- To provide a clear and user-friendly display of student records and subject-specific marks.

DATASTRUCTURE USED

- Array: Used to store all student records and sort them by total marks.
- Linked List: Used to store and display marks for one subject (e.g., Math), showcasing dynamic memory allocation.

ADVANTAGES

- Easy to implement and understand.
- Demonstrates sorting and memory management clearly.
- Scalable for additional subjects or data fields.
- Efficient for small-to-medium datasets.

ALGORITHM

Step 1: Start the program
Step 2: Input the number of students (n)
Step 3: Repeat for each student (1 to n)
Step 4: Sort the array in descending order based on total mark
Step5:Display sorted student records.
Step 6: Create a linked list using Math marks
Step 7: Traverse and display the linked list.
Step 8: Free memory allocated for linked list
Step 9: End the program.

SOURCE CODE

https://onlinegdb.com/w3vDqykET

```
Enter number of students: 2

Enter details for student 1:
Name: ira
Math marks: 98
Science marks: 97
English marks: 96

Enter details for student 2:
Name: sri
Math marks: 95
Science marks: 96
English marks: 97

Student Records:
ID      Name    Math    Science English Total
1       ira     98      97      96      291
2       sri     95      96      97      288

Math Marks (Linked List): 98 -> 95 -> NULL
```

CONCLUSION

This project demonstrates the combination of static (array) and dynamic (linked list) data structures in managing student academic records. Sorting helps rank students, and the linked list offers a flexible way to isolate and manage specific subject marks.

Thank You