Linked List – System Applications

Application 1: Student Management System (Using Linked List)

You are required to design a Student Management System using a Linked List. Each node represents a student record.

Each node contains:
- Student ID
- Student Name
- GPA
- Pointer to the next student

Required Operations:
1. Add a new student at the beginning of the list
2. Add a new student at the end of the list
3. Delete a student by ID
4. Search for a student by ID
5. Display all students

Notes:
- Dynamic memory allocation must be used
- No arrays or vectors are allowed

Application 2: Music Playlist System (Using Linked List)

Design a Music Playlist System using a Linked List where each node represents a song in the playlist.

Each node contains:
- Song ID
- Song Title
- Artist Name
- Duration of the song
- Pointer to the next song

Required Operations:
1. Add a song to the playlist
2. Remove a song by ID
3. Play next song
4. Display the entire playlist
5. Count total number of songs

Notes:
- Implement the system using a singly linked list
- Focus on correct pointer manipulation