



FACULTY OF COMPUTER SCIENCE AND ENGINEERING
Ghulam Ishaq Khan Institute of Engineering Sciences and Technology, Topi

Lab Duration: 3 hrs.

CS221L Data Structures Lab

Marks: 10

Lab No: 02

Instructor: Kiran

Dated: //2023

Task 1: (This task is mapped on CLO1)

You are working on a project that involves managing a collection of student records using a single linked list. Each student record has the following attributes: student ID (integer), name (string), and GPA (float).

Implement a single linked list class. Your program will generate the user-driven menu that will perform the following operations based upon user choice.

1. **Add Student:** Add a new student record to the list with the provided student ID, name, and GPA. (Assume 3 students are already enrolled just add 2 more students).
2. **Remove Student:** Remove a student record from the list based on the student ID. And after deletion display the whole list.
3. **Find Student:** Find a student record in the list based on the student ID and display their details.
4. **Display All Students:** Display the details of all students in the list.
5. **Calculate Average GPA:** Calculate and display the average GPA of all students in the list.

Write the C++ code for the singly linked list class.