

Lab Assessment-4

Implement a student management system *using LinkedList* in Java. The system should have the following functionalities:

1. Add Student: Implement a method `addStudent` that takes the student's name and ID as parameters and adds a new student record to the system.
2. Remove Student: Implement a method `removeStudent` that takes the student's ID as a parameter and removes the corresponding student record from the system.
3. Search Student: Implement a method `searchStudent` that takes the student's ID as a parameter and returns the student's name if found in the system or an appropriate message if the student is not found.
4. Update Student Grade: Implement a method `updateStudentGrade` that takes the student's ID and new grade as parameters and updates the grade for the corresponding student in the system.
5. Display All Students: Implement a method `displayAllStudents` that displays the names and IDs of all the students in the system.

Write a Java program that demonstrates the above functionalities by interacting with the user. The program should provide a menu-driven interface where the user can choose options to add, remove, search, or display students.

Sample Run

```
Student Management System
```

```
Menu:
```

- ```
1. Add Student
2. Remove Student
3. Search Student
4. Update Student Grade
5. Display All Students
6. Exit
```

```
Enter your choice: 1
```

```
Enter student name: Sachin
```

```
Enter student ID: 22MCA1001
```

```
Enter student grade: A
```

```
Student added successfully.
```

```
.....
Student Management System
```

```
Menu:
```

- ```
1. Add Student
2. Remove Student
3. Search Student
4. Update Student Grade
5. Display All Students
6. Exit
```

```
Enter your choice: 3
```

Enter student ID to search: 12345

Student found:

Name: John

ID: 12345

Grade: A

Student Management System

Menu:

1. Add Student
2. Remove Student
3. Search Student
4. Update Student Grade
5. Display All Students
6. Exit

Enter your choice: 4

Enter student ID to update grade: 12345

Enter new grade: B

Student grade updated successfully.
