Assignment Questions on Java LinkedList

1. **Creating and Adding Elements**:

   Write a Java program to create a LinkedList of strings. Add five different fruit names to the list and display the contents of the list.

2. **Accessing Elements**:

   Write a Java program to create a LinkedList of integers. Add the first ten natural numbers to the list. Then, print the third element of the list.

3. **Updating Elements**:

   Write a Java program to create a LinkedList of double values. Add five different values to the list. Replace the second value with a new value and display the updated list.

4. **Removing Elements**:

   Write a Java program to create a LinkedList of characters. Add five characters to the list. Remove the third character from the list and display the remaining elements.

5. **Checking Existence**:

   Write a Java program to create a LinkedList of strings. Add five city names to the list. Check if the list contains the city "Paris" and display the result.

6. **Iterating through a LinkedList**:

   Write a Java program to create a LinkedList of integers. Add the first ten even numbers to the list. Use a for loop and an Iterator to iterate through the list and print each element.

7. **Sorting a LinkedList**:

   Write a Java program to create a LinkedList of strings. Add five country names to the list. Sort the list in alphabetical order and display the sorted list.

8. **Copying a LinkedList**:

   Write a Java program to create two LinkedList objects of integers. Add the first five prime numbers to the first list. Copy the contents of the first list into the second list and display both lists.

9. **Shuffling a LinkedList**:

Write a Java program to create a LinkedList of integers. Add the first ten natural numbers to the list. Shuffle the list randomly and display the shuffled list.

10. **Converting an Array to LinkedList**:

    Write a Java program to create an array of strings with five elements. Convert this array into a LinkedList and display the contents of the LinkedList.

11. **Student Management System**:

    Write a Java program to create a LinkedList of Student objects. Each Student object should have properties such as id, name, and grade. Add five students to the list and display their details.

12. **Library Management System**:

    Write a Java program to create a LinkedList of Book objects. Each Book object should have properties such as isbn, title, and author. Add five books to the list and provide functionality to search for a book by its isbn.

13. **Employee Management System**:

    Write a Java program to create a LinkedList of Employee objects. Each Employee object should have properties such as id, name, and department. Add five employees to the list and provide functionality to remove an employee by their id.

14. **Movie Collection**:

    Write a Java program to create a LinkedList of Movie objects. Each Movie object should have properties such as title, genre, and year. Add five movies to the list, sort them by year, and display the sorted list.

15. **Task Management System**:

    Write a Java program to create a LinkedList of Task objects. Each Task object should have properties such as id, description, and priority. Add five tasks to the list and provide functionality to update a task's priority based on its id.