```java
//1. Write a Java program to add, remove, and access elements in an ArrayList.
package List_Interface;
import java.util.ArrayList;
public class Challenge1 {
	public static void main(String[] args) {
		ArrayList<String> colors = new ArrayList<>();
	colors.add("Red");
	colors.add("Green");
	colors.add("Blue");
	colors.add("Yellow");
	System.out.println("Original list: " + colors);
	colors.remove(2);
	System.out.println("After removing element at index 2: " + colors);
	colors.remove("Red");
	System.out.println("After removing 'Red': " + colors);
	colors.add(1, "Purple");
	System.out.println("After adding 'Purple' at index 1: " + colors);
	System.out.println("Final list of colors:" + colors);
	}
}
```

```java
//2. Implement a LinkedList that stores and prints employee names.
package List_Interface;
import java.util.LinkedList;
public class Challenge2 {
	public static void main(String[] args) {
		LinkedList<String> employees = new LinkedList<>();
	employees.add("Alice");
	employees.add("Bob");
	employees.add("Charlie");
	employees.add("John");
	System.out.println("Employee names:");
	for (String name : employees) {
	   System.out.println(name);
	}
	}
}
```

```java
//3. Demonstrate inserting an element at a specific position in a List.
package List_Interface;
import java.util.LinkedList;
public class Challenge3 {
	public static void main(String[] args) {
		LinkedList<String> employees = new LinkedList<>();
	employees.add("Alice");
```

```
        employees.add("Bob");
        employees.add("Charlie");
        employees.add("John");

        System.out.println("Original List: "+employees);

        employees.add(1,"Cena");

        System.out.println("After adding: "+employees);

            }
}



//4. You're building a to-do list manager. Use ArrayList to add tasks, remove completed ones, and
display pending tasks.
package List_Interface;
import java.util.ArrayList;
import java.util.Scanner;
public class Challenge4 {
            public static void main(String[] args) {
                        ArrayList<String> tasks = new ArrayList<>();
        Scanner sc = new Scanner(System.in);
        int choice;
        do {
           System.out.println("\n--- To-Do List ---");
           System.out.println("1. Add Task");
           System.out.println("2. Remove Completed Task");
           System.out.println("3. Display Pending Tasks");
           System.out.println("4. Exit");
           System.out.print("Enter your choice: ");
           choice = sc.nextInt();
           sc.nextLine();
           switch (choice) {
              case 1:
                        System.out.print("Add a task: ");
                 String task = sc.nextLine();
                 tasks.add(task);
                 System.out.println("Task added.");
                 break;
              case 2:
                 System.out.print("Enter task to remove (exact task name): ");
                 String completedTask = sc.nextLine();
                 if (tasks.remove(completedTask)) {
                    System.out.println("Task removed.");
                 } else {
                    System.out.println("Task not found.");
                 }
```

```
                break;
            case 3:
                System.out.println("\nPending Tasks:");
                if (tasks.isEmpty()) {
                    System.out.println("No pending tasks.");
                } else {
                    for (String t : tasks) {
                        System.out.println("- " + t);
                    }
                }
                break;
            case 4:
                System.out.println("Exiting To-Do List Manager. Bye!");
                break;
            default:
                System.out.println("Invalid choice. Try again.");
        }
    } while (choice != 4);
    sc.close();
        }
}
```

```
//5. Create a simple shopping cart system where users can add/remove products using a List.
package List_Interface;
import java.util.ArrayList;
import java.util.Scanner;
public class Challenge5 {
        public static void main(String[] args) {
                ArrayList<String> products = new ArrayList<>();
    Scanner sc = new Scanner(System.in);
    int choice;
        System.out.println("1. Add Product to cart");
        System.out.println("2. Remove Product from cart");
        System.out.print("Enter your choice: ");
        choice = sc.nextInt();
        sc.nextLine();
        switch (choice) {
            case 1:
                    System.out.print("Add the product: ");
                String product = sc.nextLine();
                products.add(product);
                System.out.println("Product added to cart successfully.");
                break;
            case 2:
                System.out.print("Enter product name to remove from the cart: ");
                product = sc.nextLine();
                System.out.println(product+" removed from the cart successfully.");
```

```
                break;
            default:
                System.out.println("Invalid choice.");
        }
    sc.close();
        }
}
```