

## Develop a basic to-do list application using functions and data structures:

```
import java.util.ArrayList;
import java.util.Scanner;

public class ToDoList {

    private static ArrayList<String> tasks = new ArrayList<>();

    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);

        while (true) {
            System.out.println("\n==== To-Do List Application =====");
            System.out.println("1. Add Task");
            System.out.println("2. Delete Task");
            System.out.println("3. Display Tasks");
            System.out.println("4. Mark Task as Complete");
            System.out.println("5. Exit");

            System.out.print("Enter your choice (1-5): ");
            int choice = scanner.nextInt();

            switch (choice) {
                case 1:
                    addTask();
                    break;
                case 2:
                    deleteTask();
                    break;
                case 3:
                    displayTasks();
                    break;
                case 4:
                    markAsComplete();
                    break;
                case 5:
                    System.out.println("Exiting the application. Goodbye!");
                    System.exit(0);
                    break;
                default:
                    System.out.println("Invalid choice. Please enter a number
between 1 and 5.");
            }
        }
    }
}
```

```

    }
}

private static void addTask() {
    Scanner scanner = new Scanner(System.in);
    System.out.print("Enter the task to add: ");
    String task = scanner.nextLine();
    tasks.add(task);
    System.out.println("Task added successfully!");
}

private static void deleteTask() {
    Scanner scanner = new Scanner(System.in);
    displayTasks();
    System.out.print("Enter the task number to delete: ");
    int taskNumber = scanner.nextInt();

    if (taskNumber >= 1 && taskNumber <= tasks.size()) {
        tasks.remove(taskNumber - 1);
        System.out.println("Task deleted successfully!");
    } else {
        System.out.println("Invalid task number. Please enter a valid task
number.");
    }
}

private static void displayTasks() {
    if (tasks.isEmpty()) {
        System.out.println("No tasks available.");
    } else {
        System.out.println("Tasks:");
        for (int i = 0; i < tasks.size(); i++) {
            System.out.println((i + 1) + ". " + tasks.get(i));
        }
    }
}

private static void markAsComplete() {
    Scanner scanner = new Scanner(System.in);
    displayTasks();
    System.out.print("Enter the task number to mark as complete: ");
    int taskNumber = scanner.nextInt();

    if (taskNumber >= 1 && taskNumber <= tasks.size()) {
        System.out.println("Task " + tasks.get(taskNumber - 1) + "
marked as complete!");
    }
}

```

```
        // You can add additional logic here to handle completed tasks, if
needed.
    } else {
        System.out.println("Invalid task number. Please enter a valid task
number.");
    }
}
}
```

## Output:

```
===== To-Do List Application =====
1. Add Task
2. Delete Task
3. Display Tasks
4. Mark Task as Complete
5. Exit
Enter your choice (1-5): 1
Enter the task to add: Go to market
Task added successfully!

===== To-Do List Application =====
1. Add Task
2. Delete Task
3. Display Tasks
4. Mark Task as Complete
5. Exit
Enter your choice (1-5): 1
Enter the task to add: Read book
Task added successfully!
```

===== To-Do List Application =====

1. Add Task
2. Delete Task
3. Display Tasks
4. Mark Task as Complete
5. Exit

Enter your choice (1-5): 3

Tasks:

1. Go to market
2. Read book

===== To-Do List Application =====

1. Add Task
2. Delete Task
3. Display Tasks
4. Mark Task as Complete
5. Exit

Enter your choice (1-5): 4

Tasks:

1. Go to market
2. Read book

Enter the task number to mark as complete: 2

Task 'Read book' marked as complete!

===== To-Do List Application =====

1. Add Task
2. Delete Task
3. Display Tasks
4. Mark Task as Complete
5. Exit

Enter your choice (1-5): 3

Tasks:

1. Go to market
2. Read book

===== To-Do List Application =====

1. Add Task
2. Delete Task
3. Display Tasks
4. Mark Task as Complete
5. Exit

Enter your choice (1-5): 2

Tasks:

1. Go to market
2. Read book

Enter the task number to delete: 1

Task deleted successfully!

===== To-Do List Application =====

1. Add Task
2. Delete Task
3. Display Tasks
4. Mark Task as Complete
5. Exit

Enter your choice (1-5): 3

Tasks:

1. Read book

□

===== To-Do List Application =====

2. Delete Task
3. Display Tasks
4. Mark Task as Complete
5. Exit