

FINAL PROJECT

OBJECTIVE: Develop a simple to-do list application using Java with an emphasis on functions and data structures.

SOURCE CODE:

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

public class Main {
    private static ArrayList<String> tasks = new ArrayList<>();

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

        while (!exit) {
            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: ");

            int choice = scanner.nextInt();
            scanner.nextLine(); // Consume newline

            switch (choice) {
                case 1:
                    addTask(scanner);
                    break;
                case 2:
                    deleteTask(scanner);
                    break;
                case 3:
                    displayTasks();
```

```

        break;
    case 4:
        markTaskAsComplete(scanner);
        break;
    case 5:
        exit = true;
        System.out.println("Exiting the application. Goodbye!");
        break;
    default:
        System.out.println("Invalid choice. Please try again.");
    }
}

scanner.close();
}

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

private static void deleteTask(Scanner scanner) {
    System.out.print("Enter the index of the task to delete: ");
    int index = scanner.nextInt();
    scanner.nextLine(); // Consume newline
    if (index >= 1 && index <= tasks.size()) {
        String removedTask = tasks.remove(index-1);
        System.out.println("Task \"" + removedTask + "\" deleted successfully.");
    } else {
        System.out.println("Invalid index. No task deleted.");
    }
}

private static void displayTasks() {
    if (tasks.isEmpty()) {

```

```

        System.out.println("No tasks in the list.");
    } else {
        System.out.println("Tasks:");
        for (int i = 0; i < tasks.size(); i++) {
            System.out.println((i + 1) + ". " + tasks.get(i));
        }
    }
}

private static void markTaskAsComplete(Scanner scanner) {
    System.out.print("Enter the index of the task to mark as complete: ");
    int index = scanner.nextInt();
    scanner.nextLine(); // Consume newline
    if (index >= 0 && index < tasks.size()) {
        String task = tasks.get(index);
        tasks.set(index, "[DONE] " + task);
        System.out.println("Task \"" + task + "\" marked as complete.");
    } else {
        System.out.println("Invalid index. No task marked as complete.");
    }
}
}

```

OUTPUT:

CASE-1: Empty list

--- To-Do List Application ---

1. Add Task
2. Delete Task
3. Display Tasks
4. Mark Task as Complete
5. Exit Enter your choice: 3 No tasks in the list.

Case-2: Adding Task

--- To-Do List Application ---

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

Enter your choice: 1

Enter the task: Yoga

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

Enter the task: Make Breakfast 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 Enter the task:
Complete assignments 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 Enter the task: Practice coding 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 Enter the task: Read a 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

Enter the task: Sleep

Task added successfully.

CASE-3: Display the tasks

--- To-Do List Application ---

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

Enter your choice: 3 Tasks:

1. Yoga
2. Make Breakfast
3. Complete assignments
4. Practice coding
5. Read a book
6. Sleep

CASE-4: Delete a task

--- To-Do List Application ---

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

Enter your choice: 2

Enter the index of the task to delete: 3

Task "Complete assignments" 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: 3

Tasks:

1. Yoga
2. Make Breakfast
3. Practice coding
4. Read a book
5. Sleep

CASE-5: Mark task 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: 4

Enter the index of the task to mark as complete: 1 Task

"Make Breakfast" 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: 3 Tasks:

1. Yoga

2. [DONE] Make Breakfast

3. Practice coding

4. Read a book

5. Sleep