To-Do List using Functions and Data structures

```
import java.util.ArrayList;
import java.util.Scanner;
public class TodoListApp {
  private ArrayList<String> todoList = new ArrayList<>();
  public void displayList() {
    if (todoList.isEmpty()) {
      System.out.println("\t\t"+"Your to-do list is empty.");
    } else {
      for (int i = 0; i < todoList.size(); i++) {
         System.out.println("\t\t"+i + ". " + todoList.get(i));
      }
    }
  }
  public void addTask(String task) {
    todoList.add(task);
    System.out.println("\t\t"+"Task added: " + task);
  }
  public void removeTask(int taskIndex) {
    if (taskIndex >= 0 && taskIndex < todoList.size()) {
      String removedTask = todoList.remove(taskIndex);
      System.out.println("\t\t"+"Task removed: " + removedTask);
    } else {
      System.out.println("\t\t\t"+"Invalid task index.");
    }
  }
```

```
public static void main(String[] args) {
  TodoListApp todoListApp = new TodoListApp();
  Scanner scanner = new Scanner(System.in);
  int choice;
  do {
    System.out.println("\n"+"\t\t\--- Todo List Menu ---");
    System.out.println("\t\t"+"1. Display To-Do List");
    System.out.println("\t\t"+"2. Add Task");
    System.out.println("\t\t\t"+"3. Remove Task");
    System.out.println("\t\t"+"4. Quit");
    System.out.print("\t\t"+"Enter your choice: ");
    choice = scanner.nextInt();
    switch (choice) {
      case 1:
        todoListApp.displayList();
        break;
      case 2:
        System.out.print("\t\t"+"Enter the task to add: ");
        scanner.nextLine(); // Consume the newline character
        String newTask = scanner.nextLine();
        todoListApp.addTask(newTask);
        break;
      case 3:
        System.out.print("\t\t"+"Enter the index of the task to remove: ");
        int taskIndex = scanner.nextInt();
        todoListApp.removeTask(taskIndex);
        break;
      case 4:
```

```
System.out.println("\t\t\t"+"Goodbye!");
break;
default:
System.out.println("\t\t\t"+"Invalid choice. Please try again.");
}
} while (choice != 4);
scanner.close();
}
```

Output:

```
--- Todo List Menu ---
1. Display To-Do List
2. Add Task
3. Remove Task
4. Quit
Enter your choice:
```

Add new task to the list:

```
--- Todo List Menu ---

1. Display To-Do List

2. Add Task

3. Remove Task

4. Quit
Enter your choice: 2
Enter the task to add: Buy fruits and vegetables
Task added: Buy fruits and vegetables
```

Display List:

```
--- Todo List Menu ---
1. Display To-Do List
2. Add Task
3. Remove Task
4. Quit
Enter your choice: 1
0. Prepare a presentation
1. buy fruits and vegetables
2. Plan for Dinner with friends
```

Quit:

```
--- Todo List Menu ---
1. Display To-Do List
2. Add Task
3. Remove Task
4. Quit
Enter your choice: 4
Goodbye!
```