* 1. **Basic Projects**
     1. **Task List Application Source Code:**

import java.util.ArrayList; import java.util.Scanner; public class ListApp {

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

displayMenu();

int choice= getUserChoice(scanner); switch (choice) {

case 1:

task.List.addTask(getTaskName(scanner)); break;

case 2:

if (!taskList.isEmpty()) { taskList.listTasks();

int taskNumber=getUserlnput(scanner, "Enter the task number to re

");

if (taskList.isValidTask.Nurnber(taskNumber)) { task.List.removeTask(taskNumber);

} else {

System.outprintln("Invalid task number.");

}

} else {

Systemout.println("No tasks to remove.");

}

break; case 3:

if (!taskList.isEmpty()) { taskList.listTasks();

} else {

System.out.println("No tasks to list.");

break; case 4:

scanner.close(); return;

default:

System.out.printJn("lnvalid option. Please try again.");

}

}

private static void displayMenu() { System.out.println("Task List Application"); System,out.println("l. Add Task"); System.out.println("2. Remove Task"); System.out.println("3. List Tasks"); System.out.println("4. Quit"); System.out.print("Select an option: ");

}

private static int getUserChoice(Scanner scanner) {

return scanner.nextlnt();

}

private static String getTaskName(Scanner scanner) { System.out.print("Enter task name: ");

return scanner.next();

}

private static int getUserlnput(Scanner scanner, String prompt) { System.out.print(prompt);

return scanner.nextlnt();

}

class Task.List {

private ArrayList<String> tasks= new ArrayList<>(); public void addTask(String name) {

tasks.add(name);

System.out.println("Task added.");

}

public void removeTask(int taskNumber) { tasks.remove(taskNumber - 1); System.out.println("Task removed.");

}

public void listTasks() {

for (inti= O; i < tasks.size(); i++) { System.out.println((i + 1) + ". "+ tasks.get(i));

}

}

public boolean isEmpty() {

# return tasks.isEmpty();

}

# public boolean isValidTaskNumber(int taskNumber) { return taskNumber >= I && taskNumber <= tasks.size();

}

}