SUPERSET ID-6413402

**Exercise 5: Task Management System (Singly Linked List)**

CODE:

class Task {

int taskId;

String taskName;

String status;

Task next;

public Task(int taskId, String taskName, String status) {

this.taskId = taskId;

this.taskName = taskName;

this.status = status;

this.next = null;

}

public String toString() {

return taskId + " | " + taskName + " | " + status;

}

}

class TaskList {

Task head = null;

public void addTask(int id, String name, String status) {

Task newTask = new Task(id, name, status);

if (head == null) {

head = newTask;

} else {

Task temp = head;

while (temp.next != null)

temp = temp.next;

temp.next = newTask;

}

System.out.println("Added: " + newTask);

}

public void searchTask(int id) {

Task temp = head;

while (temp != null) {

if (temp.taskId == id) {

System.out.println("Found: " + temp);

return;

}

temp = temp.next;

}

System.out.println("Task not found!");

}

public void traverse() {

System.out.println("\nAll Tasks:");

Task temp = head;

while (temp != null) {

System.out.println(temp);

temp = temp.next;

}

}

public void deleteTask(int id) {

if (head == null) return;

if (head.taskId == id) {

head = head.next;

System.out.println("Deleted task with ID: " + id);

return;

}

Task temp = head;

while (temp.next != null) {

if (temp.next.taskId == id) {

temp.next = temp.next.next;

System.out.println("Deleted task with ID: " + id);

return;

}

temp = temp.next;

}

System.out.println("Task not found!");

}

public static void main(String[] args) {

TaskList taskList = new TaskList();

taskList.addTask(1, "Design UI", "Pending");

taskList.addTask(2, "Develop Backend", "In Progress");

taskList.addTask(3, "Testing", "Pending");

taskList.traverse();

taskList.searchTask(2);

taskList.deleteTask(1);

taskList.traverse();

}

}

OUTPUT:

Added: 1 | Design UI | Pending

Added: 2 | Develop Backend | In Progress

Added: 3 | Testing | Pending

All Tasks:

1 | Design UI | Pending

2 | Develop Backend | In Progress

3 | Testing | Pending

Found: 2 | Develop Backend | In Progress

Deleted task with ID: 1

All Tasks:

2 | Develop Backend | In Progress

3 | Testing | Pending

