**Exercise 5  
Task Management System Using Singly Linked List**

Task.java:

**package** tasklist;

**public** **class** Task {

**private** String taskId;

**private** String taskName;

**private** String status;

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

**this**.taskId = taskId;

**this**.taskName = taskName;

**this**.status = status;

}

**public** String getTaskId() {

**return** taskId;

}

**public** String getTaskName() {

**return** taskName;

}

**public** String getStatus() {

**return** status;

}

@Override

**public** String toString()

{

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

}

}

TaskManager.java:

**package** tasklist;

**public** **class** TaskManager {

**private** TaskNode head;

**public** **void** add(Task task) {

TaskNode newNode = **new** TaskNode(task);

**if** (head == **null**) {

head = newNode;

} **else** {

TaskNode current = head;

**while** (current.next != **null**) {

current = current.next;

}

current.next = newNode;

}

}

**public** Task search(String taskId) {

TaskNode current = head;

**while** (current != **null**) {

**if** (current.data.getTaskId().equals(taskId)) {

**return** current.data;

}

current = current.next;

}

**return** **null**;

}

**public** **void** traverse() {

TaskNode current = head;

**while** (current != **null**) {

System.***out***.println(current.data);

current = current.next;

}

}

**public** **boolean** delete(String taskId) {

**if** (head == **null**) **return** **false**;

**if** (head.data.getTaskId().equals(taskId)) {

head = head.next;

**return** **true**;

}

TaskNode current = head;

**while** (current.next != **null**) {

**if** (current.next.data.getTaskId().equals(taskId)) {

current.next = current.next.next;

**return** **true**;

}

current = current.next;

}

**return** **false**;

}

}

TaskNode.java:

**package** tasklist;

**public** **class** TaskNode {

Task data;

TaskNode next;

**public** TaskNode(Task data)

{

**this**.data=data;

**this**.next=**null**;

}

}

TaskTest.java:

**package** tasklist;

**public** **class** TaskTest {

**public** **static** **void** main(String[] args) {

TaskManager manager = **new** TaskManager();

manager.add(**new** Task("T01", "Code Module", "Pending"));

manager.add(**new** Task("T02", "Review PR", "In Progress"));

manager.add(**new** Task("T03", "Deploy Build", "Pending"));

System.***out***.println("Task List:");

manager.traverse();

System.***out***.println("Searching T02:");

System.***out***.println(manager.search("T02"));

System.***out***.println("Deleting T01:");

System.***out***.println(manager.delete("T01") ? "Deleted" : "Not Found");

System.***out***.println("Task List After Deletion:");

manager.traverse();

}

}

**Output:**

