TAD< Task Management>
Task = { Title, Description, LimitDate, Priority, id } Title: Title of the task. Description: Description of the task. LimitDate: Deadline or due date of the task. Priority: Indicates if the task is a priority (boolean). Id: Identification code for the task.
Invariant: The queue always contains at least one item and is never empty.
Primitive operations

• AddTask	Queue x TaskR	→ Boolean
• ModifyTask	Queue x TaskR	→ Boolean
• DeleteTask	Queue x TaskR	→ Boolean
• UndoLastTask	Queue	→ Task
• EmptyTaskQueue	Queue	→ Boolean

AddTask (title, description, limitDate, priority)

"Create a new task with the given information and add it to the task queue"

{pre: title, description, limitDate, priority ϵ Task }

{post: Task is added to the task list }

ModifyTask (taskId, title, description, limitDate, priority)

"Modify an existing task with the provided information."

{pre: taskId ϵ Task, title, description, limitDate, priority ϵ Task }

{post: Task is modified with the provided information }

DeleteTask (taskId)

"Delete a task by its ID from the task list"

{pre: taskId ϵ Task}
{post: Task is removed from the task list}

UndoLastTask ()

"Undo the last task operation (add, modify, or delete) and retrieve the task."

{pre: There is at least one task operation to undo}

{post: The last task operation is undone, and the task is retrieved}

EmptyTaskQueue (queue,IsEmpty)

"Check if the task queue is empty (no tasks)"

{pre: Task queue size > 0 ∨ Task queue size = 0 }
{post: Returns true if the task list is empty; otherwise, returns false }