



INFORMATICS  
INSTITUTE OF  
TECHNOLOGY

UNIVERSITY OF  
WESTMINSTER<sup>®</sup>

## University of Westminster

**Module Name:** Software Development 1

**Module leader:** Guhanathan Poravi

**Assignment type:** Individual coursework

**Group ID:** 06

**Submission date:** 21.04.2025

Student Id	Uow ID	Student Name
20242053	w2152911	S.A.D.D.N. Dissanayake

School of Computing  
Informatics Institute of Technology (IIT Campus)

## Table of Contents

[Stage 4] Tkinter GUI for Viewing, Searching, and Sorting Tasks .....	3
Program description: .....	3
Main Interface .....	4 - 5
Using Search and Filter Functionality .....	6
Task Management Components .....	7 - 9
Troubleshooting .....	10

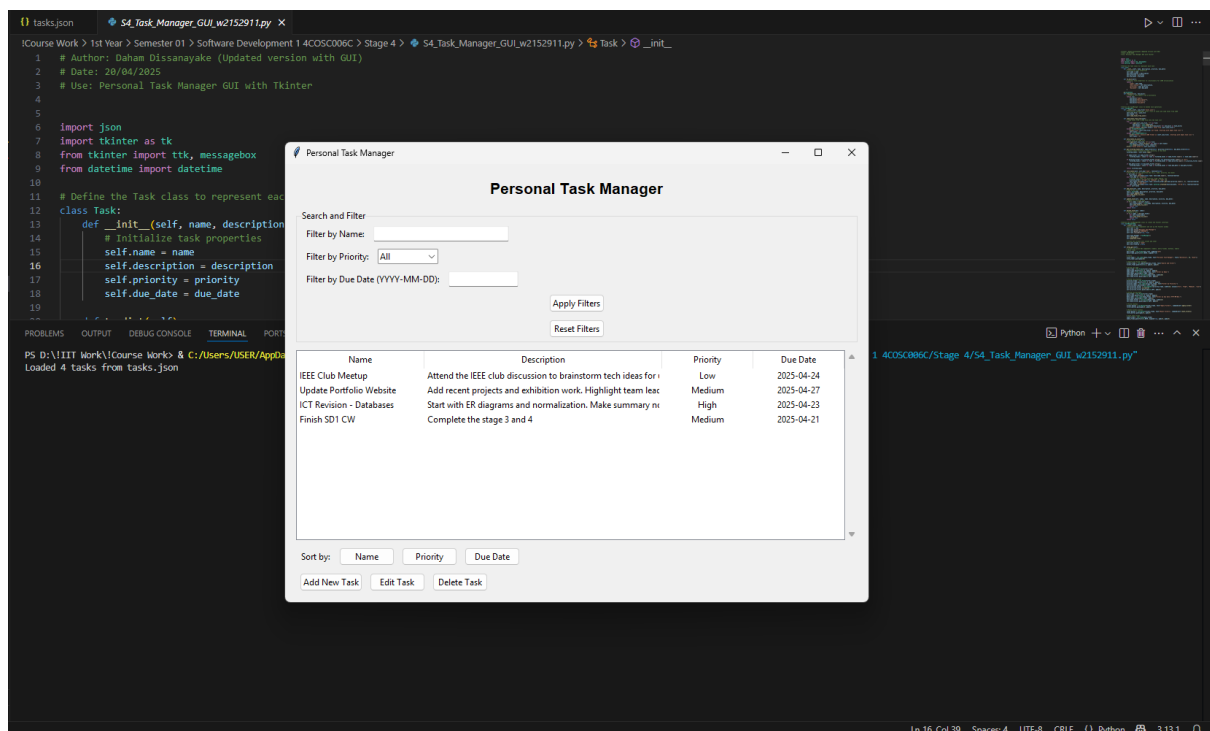
## [Stage 4] Tkinter GUI for Viewing, Searching, and Sorting Tasks

Program description:

### Personal Task Manager with GUI:

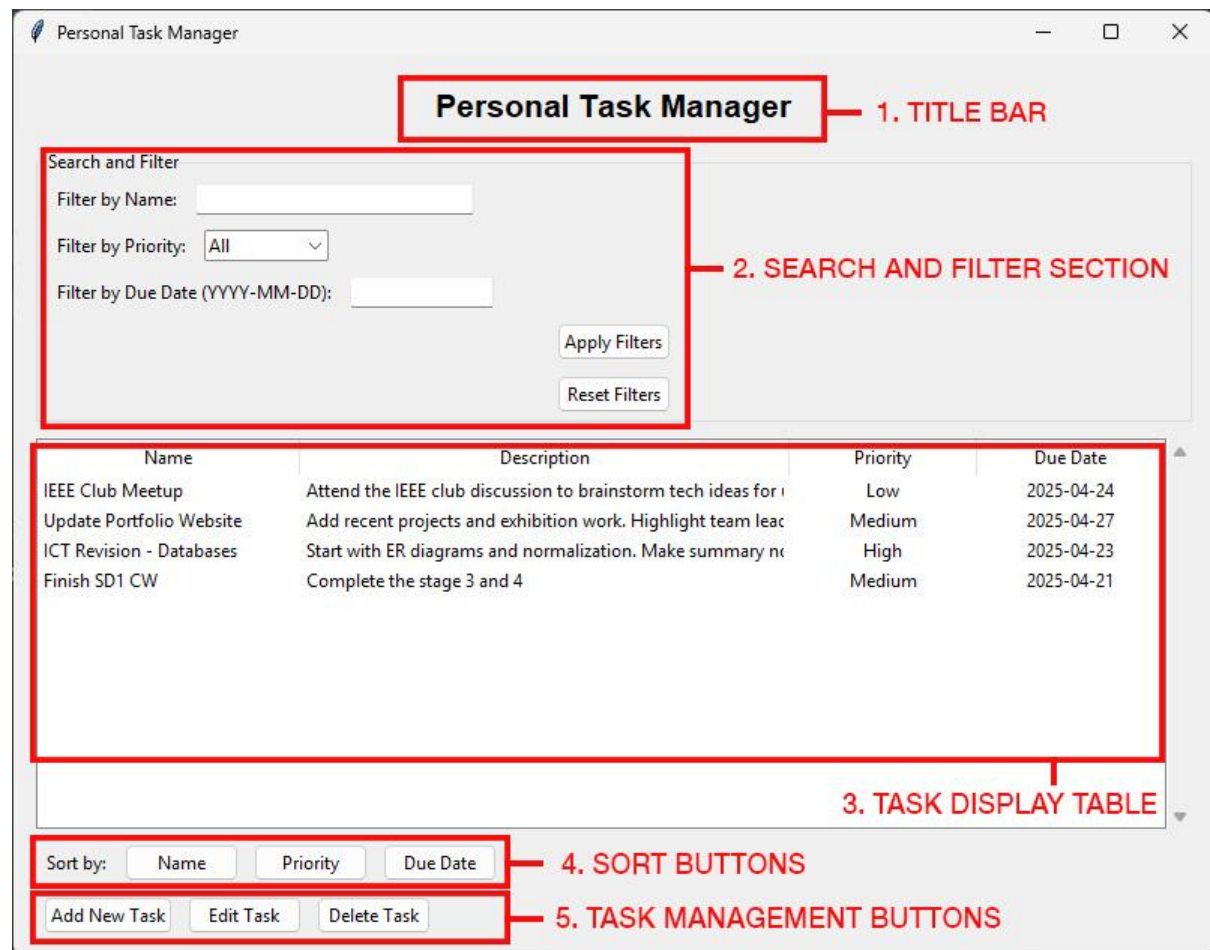
A desktop-based task management app built using Python's tkinter library. This version introduces a user-friendly graphical interface to view, add, edit, delete, sort, and filter tasks efficiently. Tasks are stored in a local JSON file with attributes like name, description, priority, and due date. Ideal for personal productivity and planning.

The following is a documentation on the GUI Interface and instructions for using search and sort functionalities.



## Main Interface

The application interface consists of several key sections:



### 1. Title Bar

Located at the top of the window, displaying "Personal Task Manager" to identify the application.

### 2. Search and Filter Section

This section allows you to narrow down the displayed tasks according to specific criteria:

- **Filter by Name:** Enter text to find tasks containing that text in their names
- **Filter by Priority:** Select from a dropdown menu (All, High, Medium, Low)
- **Filter by Due Date:** Enter a date in YYYY-MM-DD format to find tasks due on that specific date
- **Apply Filters button:** Click to apply all filters simultaneously

- **Reset Filters** button: Click to clear all filters and return to viewing all tasks

### 3. Task Display Table

The main section of the interface displays your tasks in a tabular format with the following columns:

- **Name:** The title of the task
- **Description:** Detailed information about the task
- **Priority:** The importance level (High, Medium, Low)
- **Due Date:** When the task should be completed (YYYY-MM-DD format)

### 4. Sort Buttons

Located below the task table, these buttons provide quick sorting options:

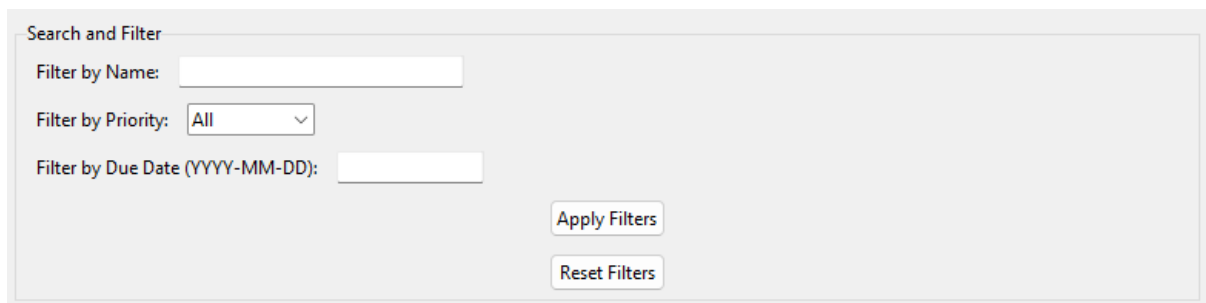
- **Name:** Sort tasks alphabetically by name
- **Priority:** Sort tasks by priority level (High → Medium → Low)
- **Due Date:** Sort tasks chronologically by due date

### 5. Task Management Buttons

Buttons for performing actions on tasks:

- **Add New Task:** Create a new task
- **Edit Task:** Modify the selected task
- **Delete Task:** Remove the selected task

## Using Search and Filter Functionality

A screenshot of a web application's search and filter interface. It features a light gray background with a white border. At the top left, the text "Search and Filter" is displayed. Below this, there are three filter fields: "Filter by Name:" followed by a text input box, "Filter by Priority:" followed by a dropdown menu showing "All", and "Filter by Due Date (YYYY-MM-DD):" followed by a text input box. To the right of these fields are two buttons: "Apply Filters" and "Reset Filters".

Search and Filter

Filter by Name:

Filter by Priority: All ▼

Filter by Due Date (YYYY-MM-DD):

### 1. Search & Filter

- **By Name:** Enter any part of a task name (case-insensitive).
- **By Priority:** Select High, Medium, Low, or All.
- **By Due Date:** Enter a specific date in YYYY-MM-DD format.
- **Combine Filters:** Fill multiple fields, click Apply Filters.
- **Reset Filters:** Click Reset Filters to clear all and view all tasks.

### 2. Sort

- **Column Sorting:** Click column headers (Name, Priority, Description, Due Date) to sort; click again to reverse.
- **Sort Buttons:** Use quick buttons for Name, Priority, and Due Date.

### 3. Sort Order

- a. **Priority:**
  - Ascending: Low → Medium → High
  - Descending: High → Medium → Low
- b. **Due Date:**
  - Ascending: Earliest first
  - Descending: Latest first

## Task Management Components

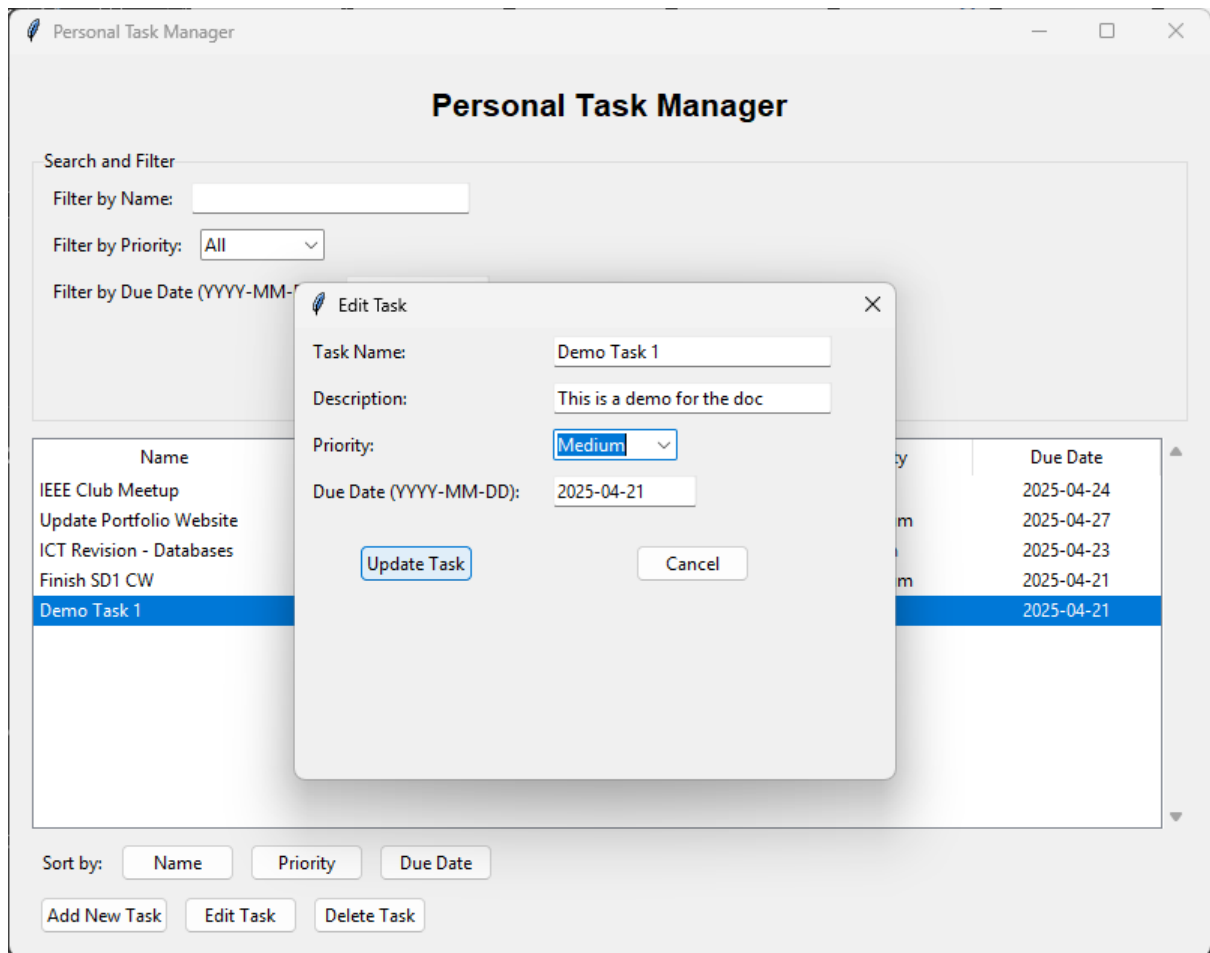
### Adding a New Task:

The screenshot shows the 'Personal Task Manager' application window. In the background, there is a 'Search and Filter' section with input fields for 'Filter by Name:', 'Filter by Priority:' (set to 'All'), and 'Filter by Due Date (YYYY-MM-DD)'. Below this is a table of tasks with columns 'Name' and 'Due Date'. The tasks listed are: IEEE Club Meetup (2025-04-24), Update Portfolio Website (2025-04-27), ICT Revision - Databases (2025-04-23), and Finish SD1 CW (2025-04-21). At the bottom, there are 'Sort by:' buttons for 'Name', 'Priority', and 'Due Date', and three main action buttons: 'Add New Task', 'Edit Task', and 'Delete Task'. Overlaid on top of this is a modal dialog box titled 'Add New Task'. This dialog contains four fields: 'Task Name:' with the value 'Demo Task 1', 'Description:' with the value 'This is a demo for the doc', 'Priority:' with a dropdown menu set to 'Low', and 'Due Date (YYYY-MM-DD):' with the value '2025-04-21'. At the bottom of the dialog are two buttons: 'Add Task' and 'Cancel'.

Name	Due Date
IEEE Club Meetup	2025-04-24
Update Portfolio Website	2025-04-27
ICT Revision - Databases	2025-04-23
Finish SD1 CW	2025-04-21

1. Click the "Add New Task" button
2. Fill in the task details in the dialog that appears:
  - Task Name (required)
  - Description
  - Priority (select from dropdown)
  - Due Date (in YYYY-MM-DD format)
3. Click "Add Task" to create the task, or "Cancel" to discard

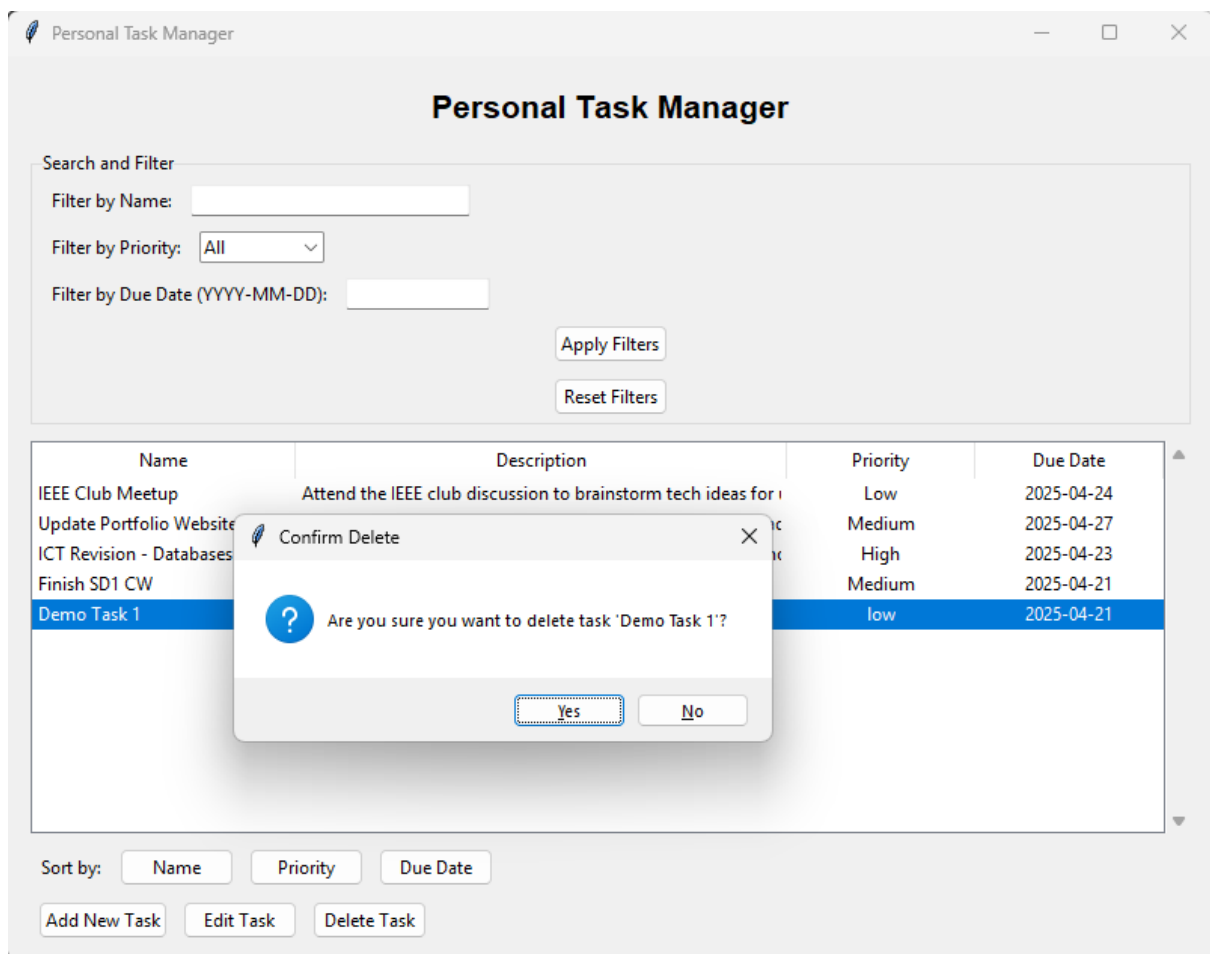
## Editing an Existing Task:



1. Select the task you want to edit by clicking on it in the table
2. Click the "Edit Task" button
3. Modify any fields in the dialog that appears
4. Click "Update Task" to save changes, or "Cancel" to discard



## Deleting a Task:



1. Select the task you want to delete by clicking on it in the table
2. Click the "Delete Task" button
3. Confirm the deletion in the dialog that appears

## Troubleshooting

### Common Issues:

1. **No Tasks Appear After Filtering:**
  - Verify that your filter criteria aren't too restrictive
  - Check for typos in the name or date fields
  - Click "Reset Filters" to start over
2. **Date Filter Not Working:**
  - Ensure you're using the correct YYYY-MM-DD format (e.g., 2025-04-30)
  - The date must match exactly (no partial date matching)
3. **Task Not Found When Filtering by Name:**
  - The search is case-insensitive but requires the exact sequence of characters
  - Try using a shorter, more distinctive part of the task name
4. **Sort Order Seems Incorrect:**
  - Remember that clicking a column header or sort button toggles between ascending and descending order
  - Priority sorts in the order: High → Medium → Low (or reverse)