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"TASK MANAGER WITH NOTIFICATIONS"

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Contents

Introduction

- In today's fast-paced world, managing tasks efficiently is essential, and timely notifications serve as crucial reminders for completing tasks on time. By integrating task management and notification functionalities into a single application.

- The aim of this project is to develop a Task Manager with Notifications, providing users with an efficient tool to organize tasks and receive timely reminders, ultimately enhancing productivity and helping users stay on top of their responsibilities.

Objectives

- To Design and develop a user interface that is intuitive and easy to navigate for managing tasks.
- Allow users to customize task categories, priorities, and notification preferences according to their preferences.

Functionality of Project

- **Input Validation**:The code includes input validation to ensure that users enter valid choices, task indices, and datetime formats.It checks for invalid inputs and provides appropriate error messages to guide users.

- **Deadline Tasks**:Users input deadlines for multiple tasks.The program calculates the time remaining for each task based on the current time.If a task's deadline has passed, the program notifies the user that the task is overdue.Otherwise, it displays the time remaining until the deadline.

- **Manage Tasks**:Users can add, edit, remove, and view tasks.Tasks consist of a title, description, and deadline.The user interface prompts users to choose from various options to perform these actions.

- **Datetime Operations:**The code utilizes datetime operations to calculate the time remaining for each task based on its deadline.It compares the deadline with the current time to determine whether a task is overdue or how much time is left until the deadline.

Functionality of Project

- **Looping Menu:** The code implements a loop that allows users to continue interacting with the program until they choose to exit.This looping menu structure enables users to perform multiple tasks or track multiple deadlines within the same session.

- **Error Handling**:The code includes error handling mechanisms to handle unexpected situations gracefully.It catches and handles errors such as invalid inputs or incorrect datetime formats to prevent program crashes and ensure smooth execution.

Details about Data types used in project

- **Datetime:**This is a module in Python's standard library used for working with dates and times.It provides classes for manipulating dates and times, as well as functions for formatting and parsing date/time strings.In this project, the datetime class from the datetime module is used to represent both current time and task deadlines.

- **str (string)**:Strings are sequences of characters enclosed within single or double quotation marks.They are used to represent textual data, such as task titles, descriptions, and datetime strings.Strings are used extensively throughout the project for user input prompts, task details, and datetime formatting

- **List**:Lists are ordered collections of items enclosed within square brackets and separated by commas.They can contain items of different data types and can be modified (i.e., items can be added, removed, or modified).Lists are used to store task details, such as titles, descriptions, and deadlines, as well as to manage the list of tasks.

Details about predefine module/libraries used in project

- **pandas:** used to work with excel.
- **tkinter:** used to create GUI.

CODE:

```
from datetime import datetime
def calculate_time_remaining(deadline):
    current_time = datetime.now()
    time_remaining = deadline - current_time
    return time_remaining

def manage_tasks():
    tasks = []

def add_task(title, description, deadline):
        task = [title, description, deadline]
        tasks.append(task)
        print("Task added successfully!")
```

```
def edit_task(index, new_task):
    if 0 <= index < len(tasks):
        tasks[index] = new_task
        print("Task edited successfully!")
    else:
        print("Invalid task index!")

def remove_task(index):
    if 0 <= index < len(tasks):
        del tasks[index]
        print("Task removed successfully!")
    else:
        print("Invalid task index!")
```

```
def display_tasks():
    if tasks:
        print("\nTasks:")
        for i, task in enumerate(tasks, start=1):
            print(f"{i}. Title: {task[0]}, Description: {task[1]}, Deadline: {task[2]}")
    else:
        print("\nNo tasks available.")

def task_manager():
    while True:
        print("\n1. Add task\n2. Edit task\n3. Remove task\n4. View tasks\n5. Exit")
        choice = input("Enter your choice: ")
if choice == "1":
            title = input("Enter task title: ")
            description = input("Enter task description: ")
            deadline_str = input("Enter the deadline for the task (YYYY-MM-DD HH:MM:SS): ")
```

```
deadline = datetime.strptime(deadline_str, "%Y-%m-%d %H:%M:%S")
            add_task(title, description, deadline)
        elif choice == "2":
            index = int(input("Enter the index of the task to edit: "))
            new_title = input("Enter the new task title: ")
            new_description = input("Enter the new task description: ")
            new_deadline_str = input("Enter the new deadline for the task (YYYY-MM-DD HH:MM:SS): ")
    new_deadline = datetime.strptime(new_deadline_str, "%Y-%m-%d %H:%M:%S")
            edit_task(index - 1, [new_title, new_description, new_deadline])
        elif choice == "3":
            index = int(input("Enter the index of the task to remove: "))
            remove_task(index - 1)
        elif choice == "4":
            display_tasks()
        elif choice == "5":
            print("Exiting...")
            break
```

```
else:
        print("Invalid choice! Please try again.")

  task_manager()

def deadline_tasks():
  num_tasks = int(input("Enter the number of tasks: "))

  tasks = []
  for i in range(num_tasks):
    deadline_str = input(f"Enter the deadline for Task {i+1} (YYYY-MM-DD HH:MM:SS): ")
    deadline = datetime.strptime(deadline_str, "%Y-%m-%d %H:%M:%S")
    tasks.append(deadline)
```

```
print("\nTime remaining for each task:")
  for i, deadline in enumerate(tasks, start=1):
    time_left = calculate_time_remaining(deadline)
    if time_left.total_seconds() < 0:
      print(f"Task {i} is overdue!")
    else:
      print(f"Time remaining for Task {i}: {time_left}")

while True:
  print("\n1. Manage tasks\n2. Deadline tasks\n3. Exit")
  choice = input("Enter your choice: ")
```

```
if choice == "1":
    manage_tasks()
 elif choice == "2":
    deadline_tasks()
 elif choice == "3":
    print("Exiting...")
    break
 else:
    print("Invalid choice! Please try again.")
```

OUTPUT:

1. Manage tasks
2. Deadline tasks.
3. Exit

Enter your choice: 1

1. Add task
2. Edit task
3. Remove task
4. View tasks
5. Exit

Enter your choice: 1
Enter task title: PSP Assignment
Enter task description: To learn Python language
Enter the deadline for the task (YYYY-MM-DD HH:MM:SS): 2024-05-03 9:00:00
Task added successfully!

1. Add task
2. Edit task
3. Remove task
4. View tasks
5. Exit

Enter your choice: 1
Enter task title: Research paper
Enter task description: Conduct research and write the paper
Enter the deadline for the task (YYYY-MM-DD HH:MM:SS): 2024-05-10 23:59:59

Task added successfully!

1. Add task
2. Edit task
3. Remove task
4. View tasks
5. Exit

Enter your choice: 4

Tasks:
1. Title: PSP Assignment, Description: To learn Python language, Deadline: 2024-05-03 09:00:00
2. Title: Research paper, Description: Conduct research and write the paper, Deadline: 2024-05-10 23:59:59

1. Add task
2. Edit task
3. Remove task
4. View tasks.
5. Exit

Enter your choice: 5

Exiting...

1. Manage tasks
2. Deadline tasks
3. Exit

Enter your choice: 2
Enter the number of tasks: 2
Enter the deadline for Task 1 (YYYY-MM-DD HH:MM:SS): 2024-05-03 9:00:00
Enter the deadline for Task 2 (YYYY-MM-DD HH:MM:S5): 2024-05-10 23:59:59

Time remaining for each task:
Task 1 is overdue!
Time remaining for Task 2: 5 days, 14:00:18.014060

1. Manage tasks

2. Deadline tasks

3. Exit

Enter your choice: 3

Exiting...

THANK YOU