

```
import hashlib

import json

import os


# File paths
USERS_FILE = "D:\\IITM\\IITM AG\\Python Fundamentals\\Python_Project\\Proj2\\users.txt"


def hash_password(password):

    return hashlib.sha256(password.encode()).hexdigest()


def register_user(username, password):

    if not os.path.exists(USERS_FILE):

        open(USERS_FILE, 'w').close()

    with open(USERS_FILE, 'r') as file:

        users = file.readlines()

    for user in users:

        if user.split(':')[0] == username:

            print("Username already exists.")

            return False

    with open(USERS_FILE, 'a') as file:

        file.write(f"{username}:{hash_password(password)}\n")

    print("Registration successful!")

    return True


def login_user(username, password):

    with open(USERS_FILE, 'r') as file:

        users = file.readlines()
```

```
for user in users:

    stored_username, stored_password = user.strip().split(':')

    if stored_username == username and stored_password == hash_password(password):

        print("Login successful!")

        return True

print("Invalid username or password.")

return False
```

```
def get_tasks_file(username):

    return f"D:\\IITM\\IITM AG\\Python  
Fundamentals\\Python_Project\\Proj2\\tasks_{username}.txt"
```

```
def add_task(username, title, description):
```

```
    tasks_file = get_tasks_file(username)
```

```
    tasks = []
```

```
    if os.path.exists(tasks_file):
```

```
        with open(tasks_file, 'r') as file:
```

```
            tasks = json.load(file)
```

```
    task = {"id": len(tasks) + 1, "title": title, "description": description, "completed": False}
```

```
    tasks.append(task)
```

```
    with open(tasks_file, 'w') as file:
```

```
        json.dump(tasks, file, indent=4)
```

```
    print("Task added successfully!")
```

```
def view_tasks(username):
```

```
    tasks_file = get_tasks_file(username)
```

```
if not os.path.exists(tasks_file):
```

```
    print("No tasks found.")
```

```
    return
```

```
with open(tasks_file, 'r') as file:
```

```
    tasks = json.load(file)
```

```
if not tasks:
```

```
    print("No tasks found.")
```

```
    return
```

```
for task in tasks:
```

```
    status = "Completed" if task['completed'] else "Pending"
```

```
    print(f"[ID: {task['id']}] {task['title']} - {task['description']} ({status})")
```

```
def mark_task_completed(username, task_id):
```

```
    tasks_file = get_tasks_file(username)
```

```
if not os.path.exists(tasks_file):
```

```
    print("No tasks found.")
```

```
    return
```

```
with open(tasks_file, 'r') as file:
```

```
    tasks = json.load(file)
```

```
for task in tasks:
```

```
    if task['id'] == task_id:
```

```
        task['completed'] = True
```

```
        with open(tasks_file, 'w') as file:
```

```
            json.dump(tasks, file, indent=4)
```

```
print("Task marked as completed!")
```

```
return
```

```
print("Task ID not found.")
```

```
def delete_task(username, task_id):
```

```
    tasks_file = get_tasks_file(username)
```

```
    if not os.path.exists(tasks_file):
```

```
        print("No tasks found.")
```

```
    return
```

```
    with open(tasks_file, 'r') as file:
```

```
        tasks = json.load(file)
```

```
    tasks = [task for task in tasks if task['id'] != task_id]
```

```
    with open(tasks_file, 'w') as file:
```

```
        json.dump(tasks, file, indent=4)
```

```
    print("Task deleted successfully!")
```

```
def main():
```

```
    while True:
```

```
        print("\n--- Task Manager ---")
```

```
        print("1. Register")
```

```
        print("2. Login")
```

```
        print("3. Exit")
```

```
        choice = input("Enter your choice: ")
```

```
        if choice == '1':
```

```
username = input("Enter username: ")
password = input("Enter password: ")
register_user(username, password)
```

```
elif choice == '2':
```

```
    username = input("Enter username: ")
    password = input("Enter password: ")
    if login_user(username, password):
```

```
        while True:
```

```
            print("\n--- Task Menu ---")
```

```
            print("1. Add Task")
```

```
            print("2. View Tasks")
```

```
            print("3. Mark Task as Completed")
```

```
            print("4. Delete Task")
```

```
            print("5. Logout")
```

```
            task_choice = input("Enter your choice: ")
```

```
        if task_choice == '1':
```

```
            title = input("Enter task title: ")
```

```
            description = input("Enter task description: ")
```

```
            add_task(username, title, description)
```

```
        elif task_choice == '2':
```

```
            view_tasks(username)
```

```
        elif task_choice == '3':
```

```
            task_id = int(input("Enter task ID to mark as completed: "))
```

```
            mark_task_completed(username, task_id)
```

```
        elif task_choice == '4':
```

```
            task_id = int(input("Enter task ID to delete: "))
```

```
delete_task(username, task_id)
```

```
elif task_choice == '5':
```

```
    break
```

```
else:
```

```
    print("Invalid choice. Please try again.")
```

```
elif choice == '3':
```

```
    print("Exiting Task Manager. Goodbye!")
```

```
    break
```

```
else:
```

```
    print("Invalid choice. Please try again.")
```

```
if __name__ == "__main__":
```

```
    main()
```