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#############Task Manager#################

import json

#List
Task_list=[]
existing_cred=[]
existing_tasks=[]

#This function will load the credentials files
def load_Credentials():
    global existing_cred
    try:
        with open("credentials.json", "r") as file:
            existing_cred = json.load(file)
        #print("Credentials loaded successfully!")
        return(True)
    except FileNotFoundError:
        #print("No previous credentials found. Starting fresh.")
        return(False)


#Function for Registration
def Registration():
    new_login_cred={}
    username=input("Enter your username:")
    pwd=hash(input("Enter your pwd:"))
#Create a dictionary to store username and password
    new_login_cred={
        "username":username,
        "password":pwd
    }
#Calling the function to load credentials file
    lc=load_Credentials()
#Checking if username exists in credentials file
    if lc==True:
        i=0
        for cred in existing_cred:
            if cred["username"]==new_login_cred["username"]:
                print("Username exists. Please enter another username.")
                i+=1
                break
        if i==0:
            #print("Username does not exist")
            existing_cred.append(new_login_cred)
            with open("credentials.json", "w") as file:
                json.dump(existing_cred, file)
            print("Registration Completed.Please login to access Task Manager")


    else:
        existing_cred.append(new_login_cred)
        with open("credentials.json", "w") as file:
            json.dump(existing_cred, file)
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        print("Registration Completed.Please login to access Task Manager")


### Function login Validation
def Login_validation():
       login_cred={}
       username=input("Enter your username:")
       pwd=hash(input("Enter your pwd:"))
#Create a dictionary to store username and password
       login_cred={
         "username":username,
         "password":pwd
        }
#Calling the function to load credentials file
       lc=load_Credentials()
#Checking if username exists in credentials file
       if lc==True:
            i=0
            for cred in existing_cred:
                if cred["username"]==login_cred["username"]:
                    if cred["password"]==login_cred["password"]:
                        print("Login Successful")
                        menu(username)

                    else:
                        print("Password incorrect.Please enter correct password")

                    i+=1
                    break
            if i==0:
                print("Username does not exist.Please register first")
       else:
           print("Username does not exist.Please register first")



#Function to load task file
def load_tasks(username):
    global existing_tasks
    file_name=username+'_tasks.json'
    #print(file_name)
    try:
        with open(file_name, "r") as file:
            existing_tasks = json.load(file)
        #print("Credentials loaded successfully!")
        return(True)
    except FileNotFoundError:
        #print("No previous credentials found. Starting fresh.")
        return(False)

# Function to add tasks
def add_tasks(username):

    task_id_list=[]
    task_desc=input("Enter the task description")
    last_id=0
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    file_name=username+'_tasks.json'

    #id_generator=itertools.count()
    lt=load_tasks(username)
    if lt==True:
        for tasks in existing_tasks:
            if "task_id" in tasks:
                task_id_list.append(tasks["task_id"])
            #print(type(task_id_list))
            #task_id_list=task_id_list.sort(reverse=True)
            last_id= task_id_list[-1]
            #print(last_id)
        new_task={
            "task_id":last_id+1,
            "task_desc":task_desc,
            "status":"Pending"
        }
        #lt=load_tasks()
        existing_tasks.append(new_task)
        with open(file_name, "w") as file:
            json.dump(existing_tasks, file)
            print("Task added Successfully")
    else:
        new_task={
            "task_id":last_id+1,
            "task_desc":task_desc,
            "status":"Pending"
        }

        existing_tasks.append(new_task)
        with open(file_name, "w") as file:
            json.dump(existing_tasks, file)
            print("Task added Successfully")



#Function to view tasks
def view_tasks(username):
    lt=load_tasks(username)
    if lt==True:
        print("\nStored Tasks:")
        for tasks in existing_tasks:
            print(f"task_id: {tasks['task_id']}, Task_description: {tasks['task_des
    else:
        print("No pending tasks")

##### Function to update task status
def update_task_status(username):
    task_id=int(input("Enter id of the task you want to update:"))
    lt=load_tasks(username)
    i=0
    file_name=username+'_tasks.json'
    if lt==True:
        for tasks in existing_tasks:
            #print(tasks["task_id"],task_id)
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            #print(type(tasks["task_id"]),type(task_id))
            if task_id==tasks["task_id"]:
                #print("Update")
                tasks["status"]='Completed'
                with open(file_name, "w") as file:
                     json.dump(existing_tasks, file)
                print("Task status updated successfully")
                i+=1
                break
        if i==0:
            print("Task does not exist.Please enter valid task id")
    else:
        print("There is no pending tasks for you!")

#Function to delete task
def delete_tasks(username):
    task_id=int(input("Enter id of the task you want to delete:"))
    lt=load_tasks(username)
    i=0
    file_name=username+'_tasks.json'
    if lt==True:
        for tasks in existing_tasks:
            #print(tasks["task_id"],task_id)
            #print(type(tasks["task_id"]),type(task_id))
            if task_id==tasks["task_id"]:
                existing_tasks.remove(tasks)
                with open(file_name, "w") as file:
                     json.dump(existing_tasks, file)
                print("Task deleted successfully")
                i+=1
                break
        if i==0:
            print("Task does not exist.Please enter valid task id")
    else:
        print("There are no tasks for you!")


# Function to display the menu
def menu(username):
    load_tasks(username)  # Load expenses when the program starts
    while True:
        print("\nTask Manager")
        print("1. Add Tasks")
        print("2. View Tasks")
        print("3. Update Tasks")
        print("4. Delete Tasks")
        print("5. Logout")

        choice = input("Select an option: ")

        if choice == '1':
            add_tasks(username)
        elif choice == '2':
            view_tasks(username)
        elif choice == '3':
            update_task_status(username)
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        elif choice == '4':
            delete_tasks(username)
        elif choice == '5':
            print("You have successfully logged out.")
            break
        else:
            print("Invalid choice. Please try again.")


#Function to authenicate user
def Authenticate():
    print("Please select register if new user. Existing user select login")
    load_Credentials()
    while True:
        print("1. Please select option 1 to Register")
        print("2. Please select option 2 to Login")
        print("3. Please select option 3 to exit the program")
        choice = input("Select an option: ")
        if choice == '1':
            Registration()

        elif choice == '2':
            Login_validation()
        elif choice == '3':
            print("Exiting the program.")
            break
        else:
            print("Invalid choice. Please try again.")
            break

#Function to run the program
Authenticate()
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