VaultofCodes

Mini Project

Develop a basic to-do list application using functions and data structures

Key Components:

1. **Functions: You'll be implementing various functions to handle different aspects of the to-do list application. Functions are modular blocks of code that perform specific tasks, making your code more organized and easier to understand.**
    - **Function to add a task**
    - **Function to delete a task**
    - **Function to display the list of tasks**
    - **Function to mark a task as complete**
2. **Data Structures: Utilize appropriate data structures to store and manage the to-do list. A common choice would be a list or a dictionary, but you can explore other options based on your creativity and understanding.**

Code:

```
# Simple To-Do List Application in Python

# Data structure: Using a list to store tasks
tasks = []

# Function to add a task
def add_task(task):
    tasks.append({"task": task, "completed": False})
    print(f"Task '{task}' added successfully.")

# Function to delete a task
def delete_task(task_number):
    if 0 < task_number <= len(tasks):
        removed_task = tasks.pop(task_number - 1)
        print(f"Task '{removed_task['task']}' deleted successfully.")
    else:
        print("Invalid task number.")

# Function to display the list of tasks
def display_tasks():
```

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    if not tasks:
        print("No tasks in the list.")
    else:
        print("Your To-Do List:")
        for i, task in enumerate(tasks, 1):
            status = "Completed" if task["completed"] else "Pending"
            print(f"{i}. {task['task']} [{status}]")

# Function to mark a task as complete
def mark_task_complete(task_number):
    if 0 < task_number <= len(tasks):
        tasks[task_number - 1]["completed"] = True
        print(f"Task '{tasks[task_number - 1]['task']}' marked as complete.")
    else:
        print("Invalid task number.")

# Main program loop
def main():
    while True:
        print("\nTo-Do List Options:")
        print("1. Add Task")
        print("2. Delete Task")
        print("3. Display Tasks")
        print("4. Mark Task as Complete")
        print("5. Exit")

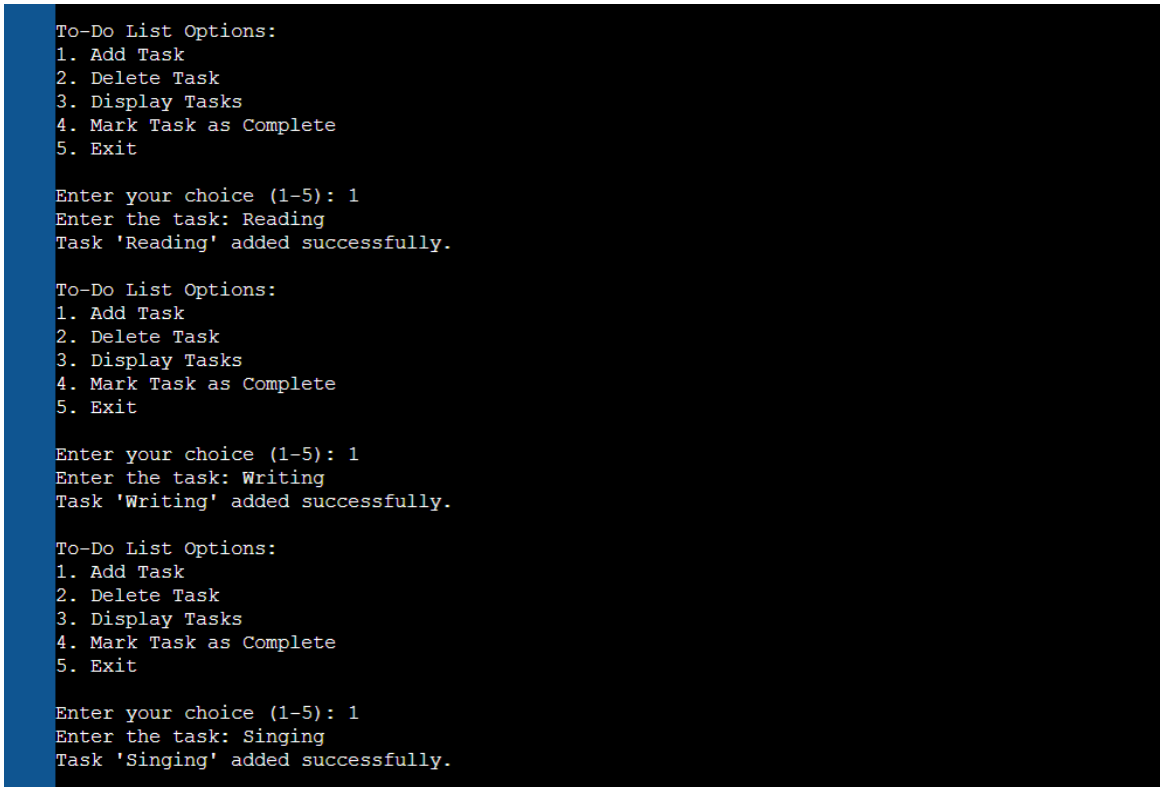
        choice = input("Enter your choice (1-5): ")

        if choice == '1':
            task = input("Enter the task: ")
            add_task(task)
        elif choice == '2':
            display_tasks()
            try:
                task_number = int(input("Enter the task number to delete: "))
                delete_task(task_number)
            except ValueError:
                print("Invalid input. Please enter a number.")
        elif choice == '3':
            display_tasks()
        elif choice == '4':
            display_tasks()
            try:
                task_number = int(input("Enter the task number to mark as complete: "))
```

```
            mark_task_complete(task_number)
        except ValueError:
            print("Invalid input. Please enter a number.")
    elif choice == '5':
        print("Exiting the application. Goodbye!")
        break
    else:
        print("Invalid choice. Please select a valid option (1-5).")

if __name__ == "__main__":
    main()
```

Output:



```
To-Do List Options:
1. Add Task
2. Delete Task
3. Display Tasks
4. Mark Task as Complete
5. Exit

Enter your choice (1-5): 3
Your To-Do List:
1. Reading [Pending]
2. Writing [Pending]
3. Singing [Pending]

To-Do List Options:
1. Add Task
2. Delete Task
3. Display Tasks
4. Mark Task as Complete
5. Exit

Enter your choice (1-5): 2
Your To-Do List:
1. Reading [Pending]
2. Writing [Pending]
3. Singing [Pending]
Enter the task number to delete: 3
Task 'Singing' deleted successfully.

To-Do List Options:
1. Add Task
2. Delete Task
3. Display Tasks
4. Mark Task as Complete
5. Exit

Enter your choice (1-5): 3
Your To-Do List:
1. Reading [Pending]
2. Writing [Pending]
```

```
To-Do List Options:
1. Add Task
2. Delete Task
3. Display Tasks
4. Mark Task as Complete
5. Exit

Enter your choice (1-5): 4
Your To-Do List:
1. Reading [Pending]
2. Writing [Pending]
Enter the task number to mark as complete: 1
Task 'Reading' marked as complete.

To-Do List Options:
1. Add Task
2. Delete Task
3. Display Tasks
4. Mark Task as Complete
5. Exit

Enter your choice (1-5): 3
Your To-Do List:
1. Reading [Completed]
2. Writing [Pending]

To-Do List Options:
1. Add Task
2. Delete Task
3. Display Tasks
4. Mark Task as Complete
5. Exit

Enter your choice (1-5): 5
Exiting the application. Goodbye!


...Program finished with exit code 0
Press ENTER to exit console.
```