class Task:

def \_init\_(self, description, due\_date, priority):

self.description = description

self.due\_date = due\_date

self.priority = priority

self.completed = False

class ToDoList:

def \_init\_(self):

self.tasks = []

def add\_task(self, task):

self.tasks.append(task)

def display\_tasks(self):

for idx, task in enumerate(self.tasks):

status = "Completed" if task.completed else "Incomplete"

print(f"{idx + 1}. {task.description} - Due: {task.due\_date}, Priority: {task.priority}, Status: {status}")

def mark\_completed(self, task\_index):

if 0 <= task\_index < len(self.tasks):

self.tasks[task\_index].completed = True

else:

print("Invalid task index!")

def update\_task(self, task\_index, new\_description, new\_due\_date, new\_priority):

if 0 <= task\_index < len(self.tasks):

task = self.tasks[task\_index]

task.description = new\_description

task.due\_date = new\_due\_date

task.priority = new\_priority

else:

print("Invalid task index!")

def remove\_task(self, task\_index):

if 0 <= task\_index < len(self.tasks):

del self.tasks[task\_index]

else:

print("Invalid task index!")

def main():

todo\_list = ToDoList()

while True:

print("\nToDo List Menu:")

print("1. Add Task")

print("2. Display Tasks")

print("3. Mark Task as Completed")

print("4. Update Task")

print("5. Remove Task")

print("6. Quit")

choice = input("Enter your choice: ")

if choice == "1":

description = input("Enter task description: ")

due\_date = input("Enter due date (optional): ")

priority = input("Enter priority (optional): ")

task = Task(description, due\_date, priority)

todo\_list.add\_task(task)

print("Task added successfully!")

elif choice == "2":

todo\_list.display\_tasks()

elif choice == "3":

task\_index = int(input("Enter the task index to mark as completed: ")) - 1

todo\_list.mark\_completed(task\_index)

print("Task marked as completed!")

elif choice == "4":

task\_index = int(input("Enter the task index to update: ")) - 1

new\_description = input("Enter new description: ")

new\_due\_date = input("Enter new due date (optional): ")

new\_priority = input("Enter new priority (optional): ")

todo\_list.update\_task(task\_index, new\_description, new\_due\_date, new\_priority)

print("Task updated successfully!")

elif choice == "5":

task\_index = int(input("Enter the task index to remove: ")) - 1

todo\_list.remove\_task(task\_index)

print("Task removed successfully!")

elif choice == "6":

print("Goodbye!")

break

else:

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

if \_name\_ == "\_main\_":

main()