

```
import json
```

```
class Task:
```

```
    def __init__(self, title, description, category):
```

```
        self.title = title
```

```
        self.description = description
```

```
        self.category = category
```

```
        self.completed = False
```

```
    def mark_completed(self):
```

```
        self.completed = True
```

```
    def to_dict(self):
```

```
        return {
```

```
            'title': self.title,
```

```
            'description': self.description,
```

```
            'category': self.category,
```

```
            'completed': self.completed
```

```
        }
```

```
    @staticmethod
```

```
    def from_dict(data):
```

```
        task = Task(data['title'], data['description'],  
data['category'])
```

```
task.completed = data['completed']  
return task
```

```
def __str__(self):  
    status = "Completed" if self.completed else  
    "Pending"  
    return f>Title: {self.title}\nDescription:  
{self.description}\nCategory: {self.category}  
\nStatus: {status}\n"
```

```
def save_tasks(tasks, filename='tasks.json'):  
    with open(filename, 'w') as f:  
        json.dump([task.to_dict() for task in tasks],  
f, indent=4)
```

```
def load_tasks(filename='tasks.json'):  
    try:  
        with open(filename, 'r') as f:  
            return [Task.from_dict(data) for data in  
json.load(f)]  
    except FileNotFoundError:  
        return []
```

```
def view_tasks(tasks):
```

```
if not tasks:
```

```
    print("\nNo tasks available.\n")
```

```
else:
```

```
    for i, task in enumerate(tasks, 1):
```

```
        print(f"\nTask {i}:")
```

```
        print(task)
```

```
def add_task(tasks):
```

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

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

```
    category = input("Enter the task category (e.g., Work, Personal, Urgent): ")
```

```
    tasks.append(Task(title, description, category))
```

```
    print("\nTask added successfully!\n")
```

```
def mark_task_completed(tasks):
```

```
    if not tasks:
```

```
        print("\nNo tasks to mark as completed.\n")
```

```
        return
```

```
    view_tasks(tasks)
```

```
    task_num = int(input("Enter the task number to mark as completed: ")) - 1
```

```
    if 0 <= task_num < len(tasks):
```

```
    tasks[task_num].mark_completed()
    print("\nTask marked as completed!\n")
else:
    print("\nInvalid task number.\n")
```

```
def delete_task(tasks):
    if not tasks:
        print("\nNo tasks to delete.\n")
        return
    view_tasks(tasks)
    task_num = int(input("Enter the task number
to delete: ")) - 1
    if 0 <= task_num < len(tasks):
        tasks.pop(task_num)
        print("\nTask deleted successfully!\n")
    else:
        print("\nInvalid task number.\n")
```

```
def main():
    tasks = load_tasks()
```