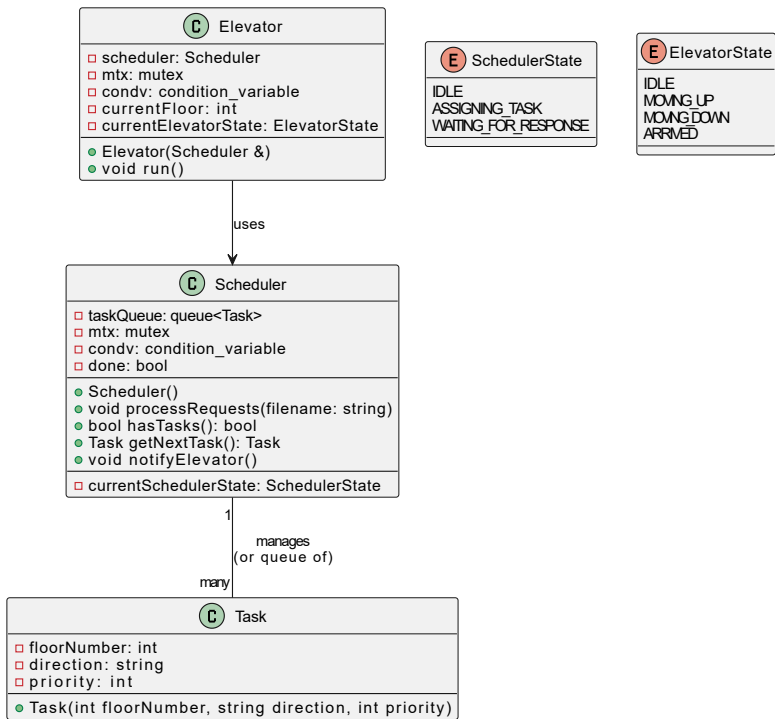
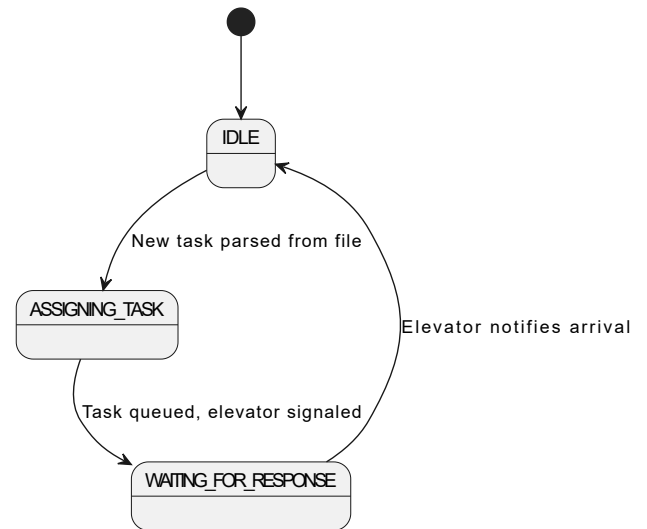


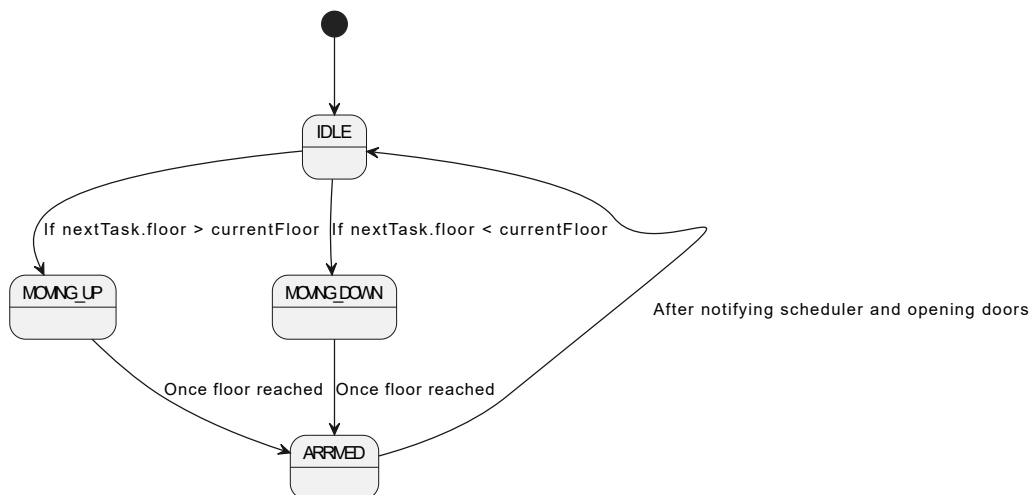
UML Class Diagram



State Machine Diagram: Scheduler



State Machine Diagram : Elevator



```

sequenceDiagram
    actor Main
    participant Scheduler
    participant Elevator

    Main->>Scheduler: processRequests trace.txt
    Scheduler->>Scheduler: loop [lines in trace]
    Scheduler->>Scheduler: parse line, create Task
    Scheduler->>Scheduler: push Task
    Scheduler->>Elevator: notify elevator
    Main->>Elevator: run
    Elevator->>Elevator: loop [until done]
    Elevator->>Scheduler: alt [hasTasks]
    Elevator->>Scheduler: getNextTask
    Elevator->>Elevator: decide direction
    Elevator->>Elevator: set ARRIVED
    Elevator->>Scheduler: notifyElevator
    Elevator->>Elevator: done
    Scheduler->>Scheduler: Scheduler
    Elevator->>Elevator: Elevator
  
```

