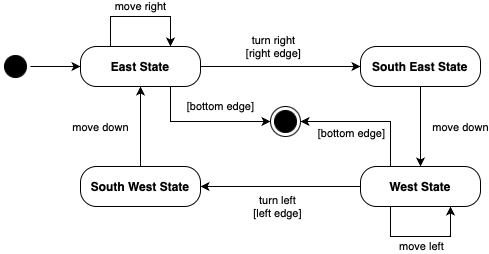
**CSE 5322 Software Design Pattern**

**Homework 4**

**State Machine**

The mower always starts and moves eastwards when first switched on.

****

**UML Class Diagram**

Below is the class diagram for the state machine by applying the state pattern.

Diagram

Description automatically generated

The client side has not been designed since the task is to only convert state machine into UML class diagram.

**Design**

**Expanded Use Case**

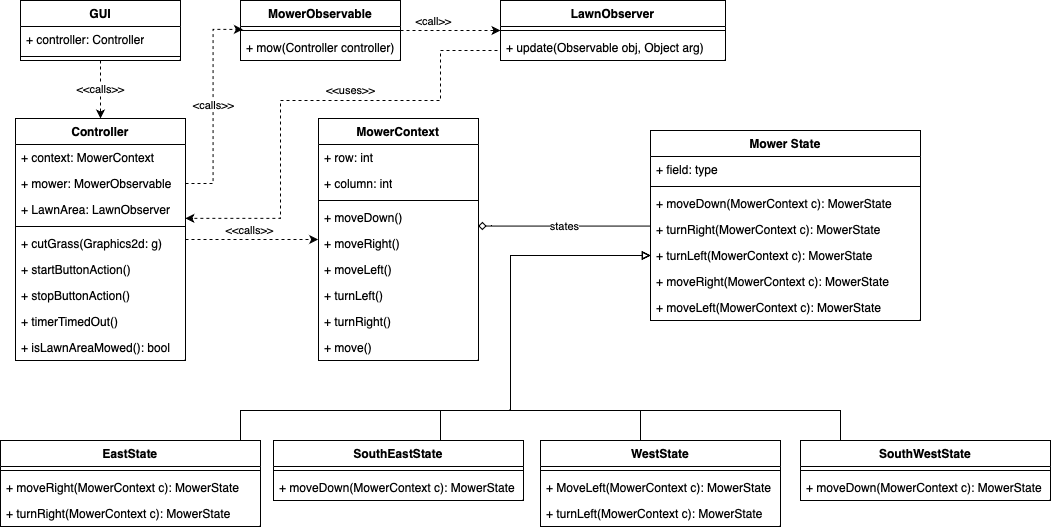
|  |  |
| --- | --- |
| UC: Mow lawn | |
| Pre-condition: There is land for mower to mow. | |
| Actor: User | System: Lawn Mower |
|  | 1. GUI displays the lawn to user. |
| 1. User clicks on the start button | 1. (\*) Lawn mower starts the mower and sees the grass cut after timer ends. |
| 1. User sees the grass cut by the mower. |  |
| Post-condition: Lawn is mowed. | |

**Design Sequence Diagram**

**Diagram, engineering drawing

Description automatically generated**

**Design Class Diagram**



**Implementation**

1. A jar file called Arya\_Shubham\_CSE5322\_S23\_HW4\_impl.jar is submitted which can be clicked to run the software.
2. You can also run the software by locating the folder Arya\_Shubham\_CSE5322\_S23\_HW4\_impl on your terminal,

javac GUI.java

java GUI

1. Screenshot showing working of lawn mower below:

 A picture containing chart

Description automatically generated

Initial State for Lawn Mower. Start button starts the lawn mower.

A picture containing chart

Description automatically generated A picture containing chart

Description automatically generated

Stop button stops lawn mower. Lawn mower finishes mowing the lawn.