**Test cases**

The red color font means that test case does not pass and need to be finished next sprint

Consider the sprint task #1 – Develop GUI portion for drawing the size of the block(environment)

Some of the test cases for this task are as follows:

|  |  |  |  |
| --- | --- | --- | --- |
| Test case #sprint 1 | Scenario | Input(s) | Expected output |
| 1 | User draws the normal(eg.10\*10) size of block by using mouse | Drawing using mouse | The block environment is visible with certain size |
| 2 | User draws the extreme small size 1\*1 of block by using mouse | Drawing using mouse | The block environment can not be set up |
| 3 | User draws the size of block reach the border by using mouse | Drawing using mouse | The block side which reaches the border will stop |
| 4 | User views block view with full size window | None | The layout of block view shows correctly |
| 5 | User views block view while changing the size of window | None | The layout of block view shows correctly |

Consider the sprint task #2 – Generate corresponding block data while user drawing environment

Some of the test cases for this task are as follows:

|  |  |  |  |
| --- | --- | --- | --- |
| Test case #sprint 1 | Scenario | Input(s) | Expected output |
| 1 | User draws the normal(eg.10\*10) size of block by using mouse | Dragging using mouse | The data will be generated |
| 2 | User draws the extreme size 1\*1 of block by using mouse | Drawing using mouse | The data will not be generated |
| 3 | User draws the size of block reach the border by using mouse | Drawing using mouse | The data will be generated |

Consider the sprint task #3 – Develop GUI portion for Develop GUI portion for constructing the regions

Some of the test cases for this task are as follows:

|  |  |  |  |
| --- | --- | --- | --- |
| Test case #sprint1 | Scenario | Input(s) | Expect Output |
| 1 | User draw the region outside the block | Mouse click and drag | No response |
| 2 | User draw the region within the block | Mouse click and drag | The regions displayed in the block view |
| 3 | User draw the region with part of it out of the block | Mouse click and drag | The region drawn within the block. When the mouse out of the block, it should not get response. When the mouse within the block, it can response correctly. |
| 4 | User draw the region by moving his mouse along the box diagonal | Mouse click and drag | The region clicked at first. There is no response for the dragging. |

Consider the sprint task #4 – Generate corresponding regions data while user drawing environment

Some of the test cases for this task are as follows:

|  |  |  |  |
| --- | --- | --- | --- |
| Test case #sprint | Scenario | Input(s) | Expect Output |
| 1 | User draw the region within the block | Mouse click and drag | The matrix with 0 filled in the region positions, 1 filled in the block area. |
| 2 | User draw the region outside the block | Mouse click and drag | No data generated |
| 3 | User draw the region with part of it out of the block | Mouse click and drag | The matrix with 0 filled in the region positions within the boundary, 1 filled in the block area. |
| 4 | User draw the region by moving his mouse along the box diagonal | Mouse click and drag | The matrix with 0 filled in the position clicked at first, 1 filled in the block area. |

Consider the sprint task #5 – Generate ID for agents

Some of the test cases for this task are as follows:

|  |  |  |  |
| --- | --- | --- | --- |
| Test case #sprint1 | Scenario | Inputs | Expect Output |
| 1 | User click on the regions area | Mouse click | Ids generated for Agents |
| 2 | User click on the area out of the regions area | Mouse click | None |

Consider the sprint task #6 – Develop GUI to set agents position

Some of the test cases for this task are as follows:

|  |  |  |  |
| --- | --- | --- | --- |
| Test case #sprint1 | Scenario | Inputs | Expect Output |
| 1 | User click on one open space in the region area less than 5 times | Mouse click | The agents appeared at the clicked position as colored blocks each one of which represents an agent |
| 2 | User click on one open space in the regions area more than 4 times | Mouse click | The agents appeared at the clicked position as number which shows how many agents at this box. |
| 3 | User click on the area out of the regions area | Mouse click | None |
| 4 | User click once on multiple open space in the region area | Mouse click | Each clicked position appears an agent |

Consider the sprint task #7 – Develop data structure to store agents and their positions

Some of the test cases for this task are as follows:

|  |  |  |  |
| --- | --- | --- | --- |
| Test case # | Scenario | Inputs | Expect Output |
| 1 | Invoke addAgent() method after the user set the agents | Agent’s ID and Initial position of agent | None |