**Test cases**

Consider the sprint task **#2 Test initializing environment**

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

|  |  |  |  |
| --- | --- | --- | --- |
| Test case  # | Scenario | Input(s) | Expected output |
| 1 | User views GUI for initializing environment | None | All details for initializing environment should display |
| 2 | User gives meaningful width and height (no more than limit) for initializing environment | Width, Height | The width and height of environment should be same with input data |
| 3 | User gives insignificant width and height (more than limit or strange symbol) for initializing environment | Width, Height | There should appear warning for wrong input |
| 4 | User clicks “Create” button without providing width and height | None | There should appear warning for wrong input |
| 5 | User clicks “Create” button without providing width or height | Single value | There should appear warning for wrong input |

Consider the sprint task **#5 Test GUI for adding open spaces**

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

|  |  |  |  |
| --- | --- | --- | --- |
| Test case  # | Scenario | Input(s) | Expected output |
| 6 | User selects an obstacle by clicking an open space once | Selection using button click | The block is marked as obstacle space |
| 7 | User double click an open space | Selection using double button click on open space | The open space will not change |
| 8 | User double click an obstacle space | Selection using double button click on obstacle space | The obstacle space turns into open space |
| 9 | User triple click an open space | Selection using triple button click on open space | The open space turns into obstacle space |
| 10 | User triple click an obstacle space | Selection using triple button click on obstacle space | The obstacle space turns into open space |
| 11 | User click an open space four times | Selection using button click four times on open space | The open space is still open space |
| 12 | User click an obstacle space four times | Selection using button click four times on obstacle space | The obstacle is still obstacle space |

Consider the sprint task **#7 Test GUI for adding agents**

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

|  |  |  |  |
| --- | --- | --- | --- |
| Test case  # | Scenario | Input(s) | Expected output |
| 13 | Choose one agent in each region | A click to choose agent position | An agent is marked in each region |
| 14 | The number of agent is greater than 1 and less than half the number of spaces. | Multiple clicks to choose agent’s position | Each region has many agents |
| 15 | One region has no agent | None | Error. Each region must have at least one agent. |
| 16 | The number of agent is more than the half of spaces in a region | Multiple clicks to choose agent’s position | Error. The number of agents should less than half of open spaces in each region |
| 17 | Choose two agents at the same position | Click twice on the same open space | Two agents are marked in the open space |

Consider the sprint task **#13 Testing algorithm for moving one step, #15 Testing algorithm for moving multiple steps.**

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

|  |  |  |  |
| --- | --- | --- | --- |
| Test case  # | Scenario | Input(s) | Expected output |
| 18 | The environment has only one region. The region has only one agent. | Agent array, Region matrix, Number of steps | The agent travels all the open spaces then it stops. |
| 19 | The environment has only one region. The region has more than one agent. | Agent array, Region matrix, Number of steps | Agents travel the region at the same time. They have different paths. Once all open spaces are visited, algorithm stops. |
| 20 | The environment has more than one region. Each region has only one agent. | Agent array, Region matrix,  Number of steps | All agents in different regions travel at the same time. Once all open spaces are all visited, the algorithm stops. |
| 21 | The environment has more than one region. Each region has more than one agent. | Agent array, Region matrix, Number of steps | All agents in different a regions travel at the same time. Once all open spaces are all visited, the algorithm stops. |
| 22 | The environment has only one region. The region has only one agent. Enter a number indicates the steps an agent moves. | Agent array, Region matrix, Number of steps | The agent moves a fixed number of steps and stops. The algorithm stops. |
| 23 | The environment has only one region. The region has more than one agent. Enter a number indicates the steps an agent moves. | Agent array, Region matrix, Number of steps | All agents move a fix number of steps and stop. |
| 24 | The environment has more than one region. Each region has only one agent. Enter a number indicates the steps an agent moves. | Agent array, Region matrix, Number of steps | All agents move a fix number of steps and stop. |
| 25 | The environment has more than one region. Each region has more than one agent. Enter a number indicates the steps an agent moves. | Agent array, Region matrix, Number of steps | All agents move a fix number of steps and stop. |

Consider the sprint task **#17 Testing after integrating block view and algorithm of moving one step, #19 Testing after integrating block view and algorithm of moving multiple steps.** Some of the test cases for this task are as follows:

|  |  |  |  |
| --- | --- | --- | --- |
| Test case  # | Scenario | Input(s) | Expected output |
| 26 | The environment has only one region. The region has only one agent. User executes the program by one step. | Click on “Run step by step” | The agent moves by one step and then stops. Color of visited spaces will change. |
| 27 | The environment has only one region. The region has only one agent. User executes the program by fixed number of steps. | Number of steps, click on “Run” | The agent moves by number of steps and then stops. Color of visited spaces will change. |
| 28 | The environment has only one region. The region has more than one agent. User executes the program by one step. | Click on “Run step by step” | All agents move at the same and move by one step and then stops. They will have different paths. Color of visited spaces will change. |
| 29 | The environment has only one region. The region has more than one agent. User executes the program by fixed number of steps. | Number of steps, click on “Run” | All agents move at the same time and moves by number of steps and then stops. They will have different paths. Color of visited spaces will change. |
| 30 | The environment has more than one region. Each region has only one agent. User executes the program by one step. | Click on “Run step by step” | All agents move at the same and move by one step and then stops. They will have different paths. Color of visited spaces will change. |
| 31 | The environment has more than one region. Each region has only one agent. User executes the program by fixed number of steps. | Number of steps, click on “Run” | All agents move at the same time and moves by number of steps and then stops. They will have different paths. Color of visited spaces will change. |
| 32 | The environment has more than one region. Each region has more than one agent. User executes the program by one step. | Click on “Run step by step” | All agents move at the same and move by one step and then stops. They will have different paths. Color of visited spaces will change. |
| 33 | The environment has more than one region. Each region has more than one agent. User executes the program by fixed number of steps. | Number of steps, click on “Run” | All agents move at the same time and moves by number of steps and then stops. They will have different paths. Color of visited spaces will change. |
| 34 | Choose one agent in each region | A click to choose agent position | An agent is marked in each region |
| 35 | The number of agent is greater than 1 and less than the number of spaces. | Multiple clicks to choose agent’s position | Each region has many agents |
| 36 | One region has no agent | None | Error. Each region must have at least one agent. |
| 37 | The number of agent is more than the half of spaces in a region | Multiple clicks to choose agent’s position | Error. The number of agents should less than half of open spaces in each region |

Consider the sprint task **#22 Testing GUI for graph view**

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

|  |  |  |  |
| --- | --- | --- | --- |
| Test case  # | Scenario | Input(s) | Expected output |
| 38 | User views position of the node in the environment | None | The position of the node in the environment should be displayed by the side of the node. |
| 39 | User views two buttons- one to execute the algorithm step by step and the other to execute the algorithm for a fixed number of times. | None | Two buttons should display in suitable positon |
| 40 | User double clicks a node | Double click on a node | The agents’ details in that node should  display |
| 41 | User click a node | Click on a node | Nothing should display |

Consider the sprint task **#26 Test loading file process**. Some of the test cases for this task are as follows:

|  |  |  |  |
| --- | --- | --- | --- |
| Test case  # | Scenario | Input(s) | Expected output |
| 42 | User click “Load File” button and choose text file. File contents are meaningful. | File | System will show the block view based on those file contents |
| 43 | User click “Load File” button and choose text file. File contents are insignificant. | File | System will give appropriate error message. |
| 44 | User click “Load File” button and choose any type file except text file. | File | System will give appropriate error message. |
| 45 | User click “Load File” button and choose multiple text files. | Files | System will give appropriate error message. |
| 46 | File content is invalid. One region has no agent | File | Invalid file |
| 47 | File content is invalid. One region has more than half the number of open spaces | File | Invalid file |
| 48 | File content is invalid. Environment size is invalid | File | Invalid file |
| 49 | File content is invalid. Region id is missing | File | Invalid file |
| 50 | File content is invalid. Agent id is missing | File | Invalid file |
| 51 | File content is invalid. Agent position is invalid, agent is not in open space | File | Invalid file |
| 52 | File content is invalid. Open spaces are not connected | File | Invalid file |
| 53 | File format is not correct | File | Invalid file |

Consider the sprint task **#30** **Test algorithm of both moving one step and multiple steps**. Some of the test cases for this task are as follows:

|  |  |  |  |
| --- | --- | --- | --- |
| Test case  # | Scenario | Input(s) | Expected output |
| 54 | The environment has only one region. The region has only one agent. | File, 1 | The algorithm will return array of agent’s trace. Once target list is empty, and agents all go their target, the algorithm will stop. |
| 55 | The environment has only one region. The region has only one agent. | File, N steps(N>1) | The algorithm will return array of each agent’s trace. Once target list is empty, and agents all go their target, the algorithm will stop |
| 56 | The environment has only one region. The region has more than one agent. | File, 1 | The algorithm will return array of each agent’s trace. Once target list is empty, and agents all go their target, the algorithm will stop |
| 57 | The environment has only one region. The region has more than one agent. | File, N(N>1) | The algorithm will return array of each agent’s trace. Once target list is empty, and agents all go their target, the algorithm will stop |
| 58 | The environment has more than one region. Each region has only one agent. | File, 1 | The algorithm will return array of each agent’s trace. Once target list is empty, and agents all go their target, the algorithm will stop |
| 59 | The environment has more than one region. Each region has only one agent. | File, N(N>1) | The algorithm will return array of each agent’s trace. Once target list is empty, and agents all go their target, the algorithm will stop |
| 60 | The environment has more than one region. Each region has more than one agent. | File, 1 | The algorithm will return array of each agent’s trace. Once target list is empty, and agents all go their target, the algorithm will stop |
| 61 | The environment has more than one region. Each region has more than one agent. | File, N(N>1) | The algorithm will return array of each agent’s trace. Once target list is empty, and agents all go their target, the algorithm will stop |
| 62 | The environment has more than one region. Each region has more than one agent. | File, 0 | Nothing will display. Return error message |
| 63 | The environment has more than one region. Each region has more than one agent. | File, 10000 | The algorithm will visit all open spaces in target list and then stop. It will return array of each agent’s trace. |

Consider the sprint task **#32** **Test after integrating algorithm and block view**. Some of the test cases for this task are as follows:

|  |  |  |  |
| --- | --- | --- | --- |
| Test case  # | Scenario | Input(s) | Expected output |
| 64 | The environment has only one region. The region has only one agent. | File, 1 | The screen should show agent’s moving trace and the color of trace should change. Once target list is empty, and agents all go their target, the algorithm will stop. |
| 65 | The environment has only one region. The region has only one agent. | File, N steps(N>1) | The screen should show agent’s moving trace and the color of trace should change. Once target list is empty, and agents all go their target, the algorithm will stop |
| 66 | The environment has only one region. The region has more than one agent. | File, 1 | The screen should show agent’s moving trace and the color of trace should change. Once target list is empty, and agents all go their target, the algorithm will stop |
| 67 | The environment has only one region. The region has more than one agent. | File, N(N>1) | The screen should show agent’s moving trace and the color of trace should change. Once target list is empty, and agents all go their target, the algorithm will stop |
| 68 | The environment has more than one region. Each region has only one agent. | File, 1 | The screen should show agent’s moving trace and the color of trace should change. Once target list is empty, and agents all go their target, the algorithm will stop |
| 69 | The environment has more than one region. Each region has only one agent. | File, N(N>1) | The screen should show agent’s moving trace and the color of trace should change. Once target list is empty, and agents all go their target, the algorithm will stop. |
| 70 | The environment has more than one region. Each region has more than one agent. | File, 1 | The screen should show agent’s moving trace and the color of trace should change. Once target list is empty, and agents all go their target, the algorithm will stop |
| 71 | The environment has more than one region. Each region has more than one agent. | File, N(N>1) | The screen should show agent’s moving trace and the color of trace should change. Once target list is empty, and agents all go their target, the algorithm will stop |
| 72 | The environment has more than one region. Each region has more than one agent. | File, 0 | The screen should show error message. |
| 73 | The environment has more than one region. Each region has more than one agent. | File, 10000 | The algorithm will stop. The screen should show agent’s moving trace and the color of trace should change. |

Consider the sprint task **#37** **Test after integrating algorithm and graphical view**. Some of the test cases for this task are as follows:

|  |  |  |  |
| --- | --- | --- | --- |
| Test case  # | Scenario | Input(s) | Expected output |
| 74 | User views graphical view of one region in the environment. The region has only one agent. | File, 1 | The screen should show agent’s moving trace and the color of trace should change. Once target list is empty, and agents all go their target, the algorithm will stop |
| 75 | User views graphical view of one region in the environment. The region has only one agent. | File, N steps(N>1) | The screen should show agent’s moving trace and the color of trace should change. Once target list is empty, and agents all go their target, the algorithm will stop |
| 76 | User views graphical view of one region in the environment. The region has more than one agents. | File, 1 | The screen should show agent’s moving trace and the color of trace should change. Once target list is empty, and agents all go their target, the algorithm will stop |
| 77 | User views graphical view of one region in the environment. The region has more than one agents. | File, N steps(N>1) | The screen should show agent’s moving trace and the color of trace should change. Once target list is empty, and agents all go their target, the algorithm will stop |
| 78 | The environment has more than one region. Each region has more than one agent. | File, 0 | The screen should show error message. |
| 79 | The environment has more than one region. Each region has more than one agent. | File, 10000 | The algorithm will stop. The screen should show agent’s moving trace and the color of trace should change. |

Consider the sprint task **#46** **Testing searching information based on supported data**. Some of the test cases for this task are as follows:

|  |  |  |  |
| --- | --- | --- | --- |
| Test case  # | Scenario | Input(s) | Expected output |
| 80 | Users want to search run by date | date | Show run information for specific date |
| 81 | Users want to search run by time (hour & minute) | time (hour & minute) | Show run information for specific time (hour & minute) |
| 82 | Users want to search run by size of the environment | size of the environment | Show run information for specific size of the environment |
| 83 | Users want to search run by number of regions | number of regions | Show run information for specific number of regions |
| 84 | Users want to search run by number of steps for completion | number of steps for completion | Show run information for specific number of steps for completion |
| 85 | Users want to search run by date and time (hour & minute) and size of the environment and number of regions  and number of steps for completion | date, time (hour & minute), size of the environment, number of regions  , number of steps for completion | Show run information based on those data |

Consider the sprint task **#50** **Test Constrained-3 algorithm**. Some of the test cases for this task are as follows:

|  |  |  |  |
| --- | --- | --- | --- |
| Test case  # | Scenario | Input(s) | Expected output |
| 86 | The environment has one region and the region has (1-[openSpaces/3]) agents | Environment object | Return correct target list and agent path. |
| 87 | The environment has one region and the region has one open space and one agent | Environment object | Return value is null |
| 88 | The environment has more than one region and each region has (1-[openSpaces/3]) agents | Environment object | Return correct target list and agent path. |
| 89 | The environment has more than one region and each region has one open space and one agent | Environment object | Return value is null |

Consider the sprint task **#53** **Test Constrained-4 algorithm**. Some of the test cases for this task are as follows:

|  |  |  |  |
| --- | --- | --- | --- |
| Test case  # | Scenario | Input(s) | Expected output |
| 90 | The environment has one region and the region has (1-[openSpaces/4]) agents | Environment object | Return correct target list and agent path. |
| 91 | The environment has one region and the region has one open space and one agent | Environment object | Return value is null |
| 92 | The environment has more than one region and each region has (1-[openSpaces/4]) agents | Environment object | Return correct target list and agent path. |
| 93 | The environment has more than one region and each region has one open space and one agent | Environment object | Return value is null |

Consider the sprint task **#56** **Test file validation of Constrained-3 algorithm.** Some of the test cases for this task are as follows:

|  |  |  |  |
| --- | --- | --- | --- |
| Test case  # | Scenario | Input(s) | Expected output |
| 94 | Environment has one region and the region has no agent | File | Error message that show each region has at least one agent |
| 95 | Environment has one region, the number of agents in that region is [1-n/3] | File | Environment information |
| 96 | Environment has one region, the number of agents in that region is more than [n/3] | File | Error message that show the number of each region is [1-n/3] |
| 97 | Environment has multiple regions; each region has one agent | File | Environment information |
| 98 | Environment has multiple regions, the number of agents in each region is [1-n/3] | File | Environment information |
| 99 | Environment has multiple regions, the number of agents in each region more than [n/3] | File | Error message that show the number of each region is [1-n/3] |

Consider the sprint task **#58 Test file validation of Constrained-4 algorithm.** Some of the test cases for this task are as follows:

|  |  |  |  |
| --- | --- | --- | --- |
| Test case  # | Scenario | Input(s) | Expected output |
| 100 | Environment has one region and the region has no agent | File | Error message that show each region has at least one agent |
| 101 | Environment has one region, the number of agents in that region is [1-n/4] | File | Environment information |
| 102 | Environment has one region, the number of agents in that region is more than [n/4] | File | Error message that show the number of each region is [1-n/4] |
| 103 | Environment has multiple regions; each region has one agent | File | Environment information |
| 104 | Environment has multiple regions, the number of agents in each region is [1-n/4] | File | Environment information |
| 105 | Environment has multiple regions, the number of agents in each region more than [n/4] | File | Error message that show the number of each region is [1-n/4] |
| 106 | Input file contains agents that don’t placed at the end nodes of the region. | File | Error message: agents initial position error |

Consider the sprint task **#60 Test Constrained-3 algorithm and Constrained-4 in block view**. Some of the test cases for this task are as follows:

|  |  |  |  |
| --- | --- | --- | --- |
| Test case  # | Scenario | Input(s) | Expected output |
| 107 | For Constrained-3 algorithm, load file successfully and start to run one step | 1 | If the algorithm doesn’t stop, agents in each region move one step. Else, agents in each region will stop. |
| 108 | For Constrained-3 algorithm, load file successfully and start to run N (>1) step | N | If the algorithm doesn’t stop, agents in each region move N steps.  If the algorithm stops at M (M<N) step, agents in each region move M steps |
| 109 | For Constrained-4 algorithm, load file successfully and start to run one step | 1 | If the algorithm doesn’t stop, agents in each region move one step. Else, agents in each region will stop. |
| 110 | For Constrained-4 algorithm, load file successfully and start to run N (>1) step | N | If the algorithm doesn’t stop, agents in each region move N steps.  If the algorithm stops at M (M<N) step, agents in each region move M steps |

Consider the sprint task **#66** **Test Constrained-3 algorithm and Constrained-4 algorithm in graph view**. Some of the test cases for this task are as follows:

|  |  |  |  |
| --- | --- | --- | --- |
| Test case  # | Scenario | Input(s) | Expected output |
| 111 | For Constrained-3 algorithm, load file successfully, choose one region to show graph and run one step | 1 | If the algorithm doesn’t stop, agents in each region move one step. Else, agents in each region will stop. Target list and each agent’s current target will show in graph. |
| 112 | For Constrained-3 algorithm, load file successfully, choose one region to show graph and start to run N (>1) step | N | If the algorithm doesn’t stop, agents in each region move N steps.  If the algorithm stops at M (M<N) step, agents in each region move M steps. Target list and each agent’s current target will show in graph. |
| 113 | For Constrained-4 algorithm, load file successfully, choose one region to show graph and start to run one step | 1 | If the algorithm doesn’t stop, agents in each region move one step. Else, agents in each region will stop. Target list and each agent’s current target will show in graph. |
| 114 | For Constrained-4 algorithm, load file successfully, choose one region to show graph and start to run N (>1) step | N | If the algorithm doesn’t stop, agents in each region move N steps.  If the algorithm stops at M (M<N) step, agents in each region move M steps. Target list and each agent’s current target will show in graph. |

Consider the sprint task **#70 Acceptance testing of file validation for free-form and #71 Acceptance testing of file validation for constrained-3**

Test files given by the professor Kasi are also considered to be added to the Test Cases:

|  |  |  |  |
| --- | --- | --- | --- |
| 115 | Test free form algorithm with one region and one agent. | P1-15X15-R1-A1-C | Show block view |
| 116 | Test free form algorithm with one region and 2 agents. | P1-15X15-R1-A2-C | Show block view |
| 117 | Test free form algorithm with one region and 4 agents. | P1-15X15-R1-A4-1-C | Show block view |
| 118 | Test free form algorithm with one region and four agents, but one agent position isn’t in this region | P1-15X15-R1-A4-1-F | Error message: agent 2 is not in region 1 |
| 119 | Test free form algorithm with one region and 4 agents. | P1-15X15-R1-A4-2-C | Show block view |
| 120 | Test free form algorithm with one region and 5 agents. | P1-15X15-R1-A5-1-C | Show block view |
| 121 | Test free form algorithm with one region and 5 agents. | P1-15X15-R1-A5-2-C | Show block view |
| 122 | Test free form algorithm with one region and 10 agents. | P1-15X15-R1-A10-C | Show block view |
| 123 | Test free form algorithm with 2 regions and 4 agents. | P2-15X15-R2-A4-C | Show block view |
| 124 | Test free form algorithm with 2 regions and 4 agents, but one agent position isn’t in this region | P2-15X15-R2-A5-F | Error message: agent 5 is not in region 2 |
| 125 | Test free form algorithm with 2 regions and 8 agents. | P2-15X15-R2-A8-C | Show block view |
| 126 | Test free form algorithm with 2 regions and 2 agents. | P3-15X15-R2-A2-C | Show block view |
| 127 | Test free form algorithm with 2 regions and 6 agents. | P3-15X15-R2-A6-C | Show block view |
| 128 | Test free form algorithm with 2 regions and 6 agents, but one agent position isn’t in this region | P3-15X15-R2-A6-F | Error message: agent 4 is not in region 1 |
| 129 | Test free form algorithm with 2 regions and 8 agents. | P3-15X15-R2-A8-C | Show block view |
| 130 | Test free form algorithm with 5 regions and 5 agents. | P4-15X15-R5-A5-C | Show block view |
| 131 | Test free form algorithm with 5 regions and 5 agents. But one region contains open spaces not continued | P4-15X15-R5-A5-F | Error message: region 4 coordinate (14,15) is not continued |
| 132 | Test free form algorithm with 5 regions and 10 agents. | P4-15X15-R5-A10-C | Show block view |
| 133 | Test free form algorithm with 5 regions and 20 agents. | P4-15X15-R5-A20-C | Show block view |
| 134 | Test free form algorithm with 4 regions and 4 agents. | P5-15X15-R4-A4-C | Show block view |
| 135 | Test free form algorithm with 4 regions and 4 agents. But one agent id is duplicated. | P5-15X15-R4-A4-F | Error message: The region id 3 is duplicated. |
| 136 | Test free form algorithm with 4 regions and 16 agents. | P5-15X15-R4-A16-1-C | Show block view |
| 137 | Test free form algorithm with 4 regions and 16 agents. | P5-15X15-R4-A16-2-C | Show block view |
| 138 | Test free form algorithm with 4 regions and 5 agents. | P6-15X15-R4-A5-C | Show block view |
| 139 | Test free form algorithm with 4 regions and 8 agents. | P6-15X15-R4-A8-1-C | Show block view |
| 140 | Test free form algorithm with 4 regions and 8 agents. | P6-15X15-R4-A8-2-C | Show block view |
| 141 | Test free form algorithm with 4 regions and 8 agents, but one agent position isn’t in this region | P6-15X15-R4-A8-F | Error message : Agent 2 is not in region 1 |
| 142 | Test free form algorithm with 4 regions and 4 agents. | P7-15X15-R4-A4-C | Show block view |
| 143 | Test free form algorithm with 4 regions and 7 agents. | P7-15X15-R4-A7-C | Show block view |
| 144 | Test free form algorithm with 4 regions and 7 agents, but one agent position isn’t in this region | P7-15X15-R4-A7-F | Error message: Agent 6 is not in region 3 |
| 145 | Test free form algorithm with 4 regions and 4 agents. | P8-15X15-R4-A4-C | Show block view |
| 146 | Test free form algorithm with 4 regions and 7 agents, but one agent position isn’t in this region | P8-15X15-R4-A4-F | Error message: Agent 12 is not in region 1 |
| 147 | Test free form algorithm with 4 regions and 9 agents. | P8-15X15-R4-A9-C | Show block view |
| 148 | Test free form algorithm with 4 regions and 12 agents. | P8-15X15-R4-A12-C | Show block view |
| 149 | Test free form algorithm with 4 regions and 4 agents. | P9-15X15-R4-A4-C | Show block view |
| 150 | Test free form algorithm with 4 regions and 7 agents. | P9-15X15-R4-A7-C | Show block view |
| 151 | Test free form algorithm with 4 regions and 7 agents, but one agent position isn’t in this region | P9-15X15-R4-A7-F | Error message: Agent 6 is not in region 1 |
| 152 | Test free form algorithm with 4 regions and 14 agents. | P9-15X15-R4-A14-C | Show block view |
| 153 | Test free form algorithm with 4 regions and 4 agents. | P10-15X15-R4-A4-C | Show block view |
| 154 | Test free form algorithm with 4 regions and 4 agents, but one agent position isn’t in this region | P10-15X15-R4-A4-F | Error message: Agent 17 is not in region 1 |
| 155 | Test free form algorithm with 4 regions and 8 agents. | P10-15X15-R4-A8-C | Show block view |
| 156 | Test free form algorithm with 5 regions and 5 agents. | P11-10X10-R5-A5-C | Show block view |
| 157 | Test free form algorithm with 5 regions and 7 agents, but one agent position isn’t in this region | P11-10X10-R5-A7-1-F | Error message: Agent 1 is not in region 1 |
| 158 | Test free form algorithm with 4 regions and 4 agents, but there are too many agents in same region | P11-10X10-R5-A7-2-F | Error message: The number of agents in region 3 is more than the half of the open spaces in this region. |
| 159 | Test free form algorithm with 5 regions and 7 agents. | P11-10X10-R5-A7-C | Show block view |
| 160 | Test free form algorithm with 5 regions and 10 agents. | P11-10X10-R5-A10-C | Show block view |
| 161 | Test free form algorithm with 5 regions and 5 agents. | P12-10X10-R5-A5-C | Show block view |
| 162 | Test free form algorithm with 5 regions and 13 agents. | P12-10X10-R5-A13-C | Show block view |
| 163 | Test free form algorithm with 5 regions and 13 agents, but there are too many agents in same region | P12-10X10-R5-A13-F | Error message: The number of agents in region 3 is more than the half of the open spaces in this region. |
| 164 | Test free form algorithm with 5 regions and 15 agents. | P13-10X10-R5-A5-C | Show block view |
| 165 | Test free form algorithm with 5 regions and 12 agents. | P13-10X10-R5-A12-C | Show block view |
| 166 | Test free form algorithm with 4 regions and 4 agents. | P14-10X10-R4-A4-C | Show block view |
| 167 | Test free form algorithm with 4 regions and 8 agents. | P14-10X10-R4-A8-C | Show block view |
| 168 | Test free form algorithm with 5 regions and 5 agents. | P15-10X10-R5-A5-C | Show block view |
| 169 | Test free form algorithm with 5 regions and 10 agents. | P15-10X10-R5-A10-C | Show block view |
| 170 | Test free form algorithm with 5 regions and 12 agents, but there are too many agents in same region | P13-10X10-R5-A12-F | Error message: The number of agents in region 4 is more than the half of the open spaces in this region. |
| 171 | Test free form algorithm with 5 regions and 12 agents, but one agent position isn’t in this region | P13-10X10-R5-A12-F | Error message: Agent 3 is not in region 1 |
| 172 | Test free form algorithm with 5 regions and 5 agents, but one agent position isn’t in this region | P15-10X10-R5-A5-F | Error message: Agent 41 is not in region 4 |
| 173 | Test free form algorithm with 5 regions and 13 agents, but there are too many agents in same region | P15-10X10-R5-A13-F | Error message: The number of agents in region 2 is more than the half of the open spaces in this region. |

Consider the sprint **#74 Acceptance testing of file validation for constrained-4**

Test files given by the professor Kasi:

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| --- | --- | --- | --- |
| 174 | Test Constrained 4 algorithm with 1 regions and 4 agents. | P1-15X15-R1-A4-C | Show block view |
| 175 | Test Constrained 4 algorithm with 1 regions and45 agents, but one agent position isn’t in this region | P1-15X15-R1-A4-F | Error message: Agent 4 is not in region 1 |
| 176 | Test Constrained 4 algorithm with 2 regions and 6 agents. | P3-15X15-R2-A6-C | Show block view |
| 177 | Test Constrained 4 algorithm with 2 regions and 6 agents, but there are no agents in one region | P3-15X15-R2-A6-F | Error message: Region 2 should have at least one agent. |
| 178 | Test Constrained 4 algorithm with 5 regions and 10 agents. | P4-15X15-R5-A10-C | Show block view |
| 179 | Test Constrained 4 algorithm with 5 regions and 10 agents, but there are one agents not in the end node. | P4-15X15-R5-A10-F | Error message: Agent 6 start position error |
| 180 | Test Constrained 4 algorithm with 5 regions and 5 agents. | P11-10X10-R5-A5-C | Show block view |
| 181 | Test Constrained 4 algorithm with 5 regions and 7 agents, but one agent position isn’t in this region | P11-10X10-R5-A7-1-F | Error message: Agent 1 is not in region 1 |
| 182 | Test constrained 4 algorithm with 5 regions and 7 agents, but there are too many agents in same region | P11-10X10-R5-A7-2-F | Error message: The number of agents in region 3 is more than the half of the open spaces in this region. |
| 183 | Test Constrained 4 algorithm with 5 regions and 9 agents. | P11-10X10-R5-A9-C | Show block view |
| 184 | Test constrained 4 algorithm with 5 regions and 11 agents, but there are too many agents in same region | P12-10X10-R5-A11-F | Error message: The number of agents in region 3 is more than the half of the open spaces in this region. |
| 185 | Test Constrained 4 algorithm with 5 regions and 5 agents. | P12-10X10-R11-A5-C | Show block view |
| 186 | Test Constrained 4 algorithm with 5 regions and 9 agents. | P13-10X10-R5-A9-C | Show block view |
| 187 | Test constrained 4 algorithm with 5 regions and 12 agents, but there are too many agents in same region | P13-10X10-R5-A12-F | Error message: The number of agents in region 4 is more than the half of the open spaces in this region. |
| 188 | Test Constrained 4 algorithm with 4 regions and 6 agents. | P14-10X10-R4-A6-C | Show block view |
| 189 | Test Constrained 4 algorithm with 4 regions and 8 agents, but one agent position isn’t in this region | P14-10X10-R4-A8-F | Error message: Agent 3 is not in region 1 |
| 190 | Test Constrained 4 algorithm with 5 regions and 5 agents. | P15-10X10-R5-A5-C | Show block view |
| 191 | Test Constrained 4 algorithm with 5 regions and5 agents, but one agent position isn’t in this region | P15-10X10-R5-A5-F | Error message: Agent 41 is not in region 4 |
| 192 | Test constrained 4 algorithm with 5 regions and 13 agents, but there are too many agents in same region | P15-10X10-R5-A13-F | Error message: The number of agents in region 2 is more than the half of the open spaces in this region. |

**Consider the sprint task #79 Acceptance testing of search**

Searching File in the last demo:

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| --- | --- | --- | --- |
| 193 | Searching with file name P11-10X10-R5-A9-C | String: P11-10X10-R5-A9-C | Run information about P11-10X10-R5-A9-C |
| 194 | Searching with size 8X11 | String: 8X11 | No data found. |