**Test cases**

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

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| Test case  # | Scenario | Input(s) | Expected output |
| 1 | Users want to search run by date | date | Show run information for specific date |
| 2 | Users want to search run by time (hour & minute) | time (hour & minute) | Show run information for specific time (hour & minute) |
| 3 | Users want to search run by size of the environment | size of the environment | Show run information for specific size of the environment |
| 4 | Users want to search run by number of regions | number of regions | Show run information for specific number of regions |
| 5 | 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 |
| 6 | 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 #56 **Test file validation of Constrained-3 algorithm.** Some of the test cases for this task are as follows:

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| --- | --- | --- | --- |
| Test case  # | Scenario | Input(s) | Expected output |
| 1 | Environment has one region and the region has no agent | File | Error message that show each region has at least one agent |
| 2 | Environment has one region, the number of agents in that region is [1-n/3] | File | None |
| 3 | 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] |
| 4 | Environment has multiple regions; each region has one agent | File | None |
| 5 | Environment has multiple regions, the number of agents in each region is [1-n/3] | File | None |
| 6 | Environment has multiple regions, the number of agents in each region more than [1-n/3] | File | Error message that show the number of each region is [1-n/3] |

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

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| --- | --- | --- | --- |
| Test case  # | Scenario | Input(s) | Expected output |
| 1 | Input file contains more than [n/4] agents where n is the number of open spaces in that region | file | Error message : too many agents in same region |
| 2 | Input file contains agents that don’t placed at the end nodes of the region. | file | Error message : agents initial position error |