**TASK 2 - TESTING DOCUMENTATION**

The **RobotMonitorMain.rtf** file contains the VDM Model and **ROMAdvancedTest.rtf** contains all the values for testing the VDM model.

A screenshot of a computer

AI-generated content may be incorrect.

A screenshot of a computer program

AI-generated content may be incorrect.The screenshot below shows the values created in the **ROMAdvancedTest.rtf** file to save time when testing the functions

**RobotMonitorMain.rtf**

|  |  |
| --- | --- |
| **Test #** | 1A |
| **Purpose of testing** | To test the values |
| **Input data** | Values |
| **Expected result** | Values defined in current module:  MAX MOVED pos16R pos21D pos22L pos22R pos23R pos26R pos32D pos32R pos33U pos41L pos45L pos54R pos56L pos61D posINIT pos33R\_dup pos55U\_dup newState34R oldState33R |
| **Result** | A screenshot of a computer  AI-generated content may be incorrect. |
| **PASS/FAIL** | PASS |

**1. Testing the functions**

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| **Test #** | 1B |
| **Purpose of testing** | To test the functions. |
| **Input data** | Functions |
| **Expected result** | Explicit functions defined in current module:  pre\_Exit post\_Exit pre\_MoveUp post\_GetCol post\_GetRow post\_MoveUp post\_GetMove pre\_MoveDown pre\_MoveLeft post\_MoveDown post\_MoveLeft pre\_MoveRight post\_MoveRight inv\_RobotMonitor init\_RobotMonitor |
| **Result** |  |
| **PASS/FAIL** | PASS |

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| **Test #** | 1C |
| **Purpose of testing** | To test if the invariant is correct. |
| **Input data** | p inv\_RobotMonitor(posINIT) |
| **Expected result** | True |
| **Result** |  |
| **PASS/FAIL** | PASS |

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| **Test #** | 1D |
| **Purpose of testing** | To test if the invariant is correct.  pos21D: RobotMonitor = mk\_RobotMonitor(2,1,<DOWN>); |
| **Input data** | p inv\_RobotMonitor(pos21D) |
| **Expected result** | True |
| **Result** |  |
| **PASS/FAIL** | PASS |

**2. Testing the Increment operation**

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| **Test #** | 2A |
| **Purpose of testing** | To test precondition |
| **Input data** | p pre\_MoveLeft(pos61D) |
| **Expected result** | False |
| **Result** |  |
| **PASS/FAIL** | PASS |

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| --- | --- |
| **Test #** | 2B |
| **Purpose of testing** | To test precondition |
| **Input data** | p pre\_MoveRight(pos21D) |
| **Expected result** | True |
| **Result** |  |
| **PASS/FAIL** | Pass |

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| --- | --- |
| **Test #** | 2C |
| **Purpose of testing** | To test precondition |
| **Input data** | >> p pre\_MoveUp(pos23R) |
| **Expected result** | True |
| **Result** |  |
| **PASS/FAIL** | PASS |

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| --- | --- |
| **Test #** | 2D |
| **Purpose of testing** | To test precondition |
| **Input data** | >> p pre\_MoveDown(pos54R) |
| **Expected result** | True |
| **Result** |  |
| **PASS/FAIL** | PASS |

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| **Test #** | 3A |
| **Purpose of testing** | To test Post |
| **Input data** | >> p post\_MoveRight(oldState33R, newState34R) |
| **Expected result** | True |
| **Result** |  |
| **PASS/FAIL** | PASS |

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| --- | --- |
| **Test #** | 3B |
| **Purpose of testing** | To test Post |
| **Input data** | >> p post\_MoveRight(pos32D,pos33R) |
| **Expected result** | True |
| **Result** |  |
| **PASS/FAIL** | PASS |

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| --- | --- |
| **Test #** | 3B |
| **Purpose of testing** | To test Post |
| **Input data** | >> p post\_MoveRight(pos23R,pos22L) |
| **Expected result** | False… Value : “Pos32D ”Overwrite Means There might be the same value 32D on the test file |
| **Result** |  |
| **PASS/FAIL** | PASS |

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| --- | --- |
| **Test #** | 3C |
| **Purpose of testing** | To test Post |
| **Input data** | >> p post\_MoveRight(pos41L, pos51L) |
| **Expected result** | False |
| **Result** |  |
| **PASS/FAIL** | PASS |
| **Test #** | 2D |
| **Purpose of testing** | To test Exit for Pre |
| **Input data** | >> p pre\_Exit(posINIT) |
| **Expected result** | False |
| **Result** |  |
| **PASS/FAIL** | PASS |

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| --- | --- |
| **Test #** | 2E |
| **Purpose of testing** | To test Exit for POST |
| **Input data** | >> p post\_Exit(pos66R, pos66\_Exit) |
| **Expected result** | True |
| **Result** |  |
| **PASS/FAIL** | PASS |