**Test Execution Report**

Calculator Web Application

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15/12/21

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**1.0 INTRODUCTION**

We created a small Web based calculator application by selecting Eclipse IDE as our environment and Java as our programming language. We tested the application with the help of Selenium Web driver and Chrome webdriver extension.

**2.0 TESTING STRATEGY**

In this project we tested all possible combinations for the calculator like addition of two digits, three digits, subtraction of positive integers, and subtraction of negative numbers, addition of one positive and one negative number, positive multiplication, negative multiplication. This is performed along with opening of chrome browser as well as closing of chrome browser. All these tasks is performed with help of Selenium webdriver and installing additional TestNG Library.

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| --- | --- | --- | --- | --- |
| **Approach** | **Type of Testing** | **Manual Testing** | **Automated Testing on Device** | **Tools/APIs/Libraries** |
| **Using Environment** |
| Standard Testing  (Functional Testing) | Unit Testing | Yes | Yes | 1. Junit   (unit testing framework)   1. Selenium WebDriver/IDE   (web application automation testing framework)   1. TestNG Library |
| Integration Testing | Yes | Yes |
| Regression Testing | No | No |
| Compatibility Testing | No | No |

**2.1 Unit Testing**

**Execution Status:** Completed

|  |  |
| --- | --- |
| **MODULE/FUNCTIONALITY NAME:** | Set Up Browser |
| **UNIT/CLASS:** | setUpBrowser |
| **CREATED BY:** | Dhiraj Shelke |
| **DATE OF CREATION:** | 15/12/21 |
| **DATE OF REVIEW:** | 15/12/21 |

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| **TEST CASE ID** | **TEST UNIT/CLASS** | **TEST CASE** | **PRE-CONDITION** | **TEST STEPS** | **TEST DATA** | **EXPECTED RESULT** | **POST CONDITION** | **ACTUAL RESULT** | **STATUS**  **(PASS/FAIL)** |
| 1 | setUpBrowser() | Chrome Browser Opens up | Chrome Browser installed | Gather chromedriver location path | chromedriver\_win32\\chromedriver.exe | Chrome Browser Opens | Following Code Executes | Chrome Browser Opens | Pass |

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| **MODULE/FUNCTIONALITY NAME:** | Two Digit Addition |
| **UNIT/CLASS:** | twoDigitAddition |
| **CREATED BY:** | Dhiraj Shelke |
| **DATE OF CREATION:** | 15/12/21 |
| **DATE OF REVIEW:** | 15/12/21 |

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| **TEST CASE ID** | **TEST UNIT/CLASS** | **TEST CASE** | **PRE-CONDITION** | **TEST STEPS** | **TEST DATA** | **EXPECTED RESULT** | **POST CONDITION** | **ACTUAL RESULT** | **STATUS**  **(PASS/FAIL)** |
| 2 | twoDigitAddition | Addition Performed of two digits | Need valid integers to perform operation | 1.Find element “1”  2. Find element “+”  3. Find element “2”  4. Find element “eval” | 1+2= | 3 | Perform addition | 3 | Pass |

|  |  |
| --- | --- |
| **MODULE/FUNCTIONALITY NAME:** | Three Digit Addition |
| **UNIT/CLASS:** | threeDigitAddition |
| **CREATED BY:** | Dhiraj Shelke |
| **DATE OF CREATION:** | 15/12/21 |
| **DATE OF REVIEW:** | 15/12/21 |

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| **TEST CASE ID** | **TEST UNIT/CLASS** | **TEST CASE** | **PRE-CONDITION** | **TEST STEPS** | **TEST DATA** | **EXPECTED RESULT** | **POST CONDITION** | **ACTUAL RESULT** | **STATUS**  **(PASS/FAIL)** |
| 3 | threeDigitAddition | Addition Performed of three digits | Need valid integers to perform operation | 1.Find element “1”  2. Find element “+”  3. Find element “9”  4. Find element “+”  5. Find element “4”  6. Find element “eval” | 1+9+4= | 14 | Perform addition | 14 | Pass |

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| --- | --- |
| **MODULE/FUNCTIONALITY NAME:** | Subtraction of positive integers |
| **UNIT/CLASS:** | SubtractionOfPositiveIntegers |
| **CREATED BY:** | Dhiraj Shelke |
| **DATE OF CREATION:** | 15/12/21 |
| **DATE OF REVIEW:** | 15/12/21 |

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| **TEST CASE ID** | **TEST UNIT/CLASS** | **TEST CASE** | **PRE-CONDITION** | **TEST STEPS** | **TEST DATA** | **EXPECTED RESULT** | **POST CONDITION** | **ACTUAL RESULT** | **STATUS**  **(PASS/FAIL)** |
| 4 | SubtractionOfPositiveIntegers() | Subtraction Performed of positive integers | Need valid integers to perform operation | 1.Find element “1”  2. Find element “0”  3. Find element “0”  4. Find element “-”  5. Find element “5”  6. Find element “0”  7. Find element “eval” | 100-50= | 50 | Perform subtraction | 50 | Pass |

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| **MODULE/FUNCTIONALITY NAME:** | Subtraction of negative integers |
| **UNIT/CLASS:** | SubtractionOfNegativeIntegers |
| **CREATED BY:** | Dhiraj Shelke |
| **DATE OF CREATION:** | 15/12/21 |
| **DATE OF REVIEW:** | 15/12/21 |

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| **TEST CASE ID** | **TEST UNIT/CLASS** | **TEST CASE** | **PRE-CONDITION** | **TEST STEPS** | **TEST DATA** | **EXPECTED RESULT** | **POST CONDITION** | **ACTUAL RESULT** | **STATUS**  **(PASS/FAIL)** |
| 5 | SubtractionOfNegativeIntegers() | Subtraction Performed of negative integers | Need valid integers to perform operation | 1.Find element “-”  2. Find element “1”  3. Find element “0”  4. Find element “-”  5. Find element “5”  6. Find element “0”  7. Find element “eval” | -10-50= | -60 | Perform subtraction | 50 | Pass |

|  |  |
| --- | --- |
| **MODULE/FUNCTIONALITY NAME:** | Positive Negative addition |
| **UNIT/CLASS:** | PositiveNegativeAddition() |
| **CREATED BY:** | Dhiraj Shelke |
| **DATE OF CREATION:** | 15/12/21 |
| **DATE OF REVIEW:** | 15/12/21 |

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| **TEST CASE ID** | **TEST UNIT/CLASS** | **TEST CASE** | **PRE-CONDITION** | **TEST STEPS** | **TEST DATA** | **EXPECTED RESULT** | **POST CONDITION** | **ACTUAL RESULT** | **STATUS**  **(PASS/FAIL)** |
| 6 | PositiveNegativeAddition() | Addition Performed of positive and negative integers | Need valid integers to perform operation | 1.Find element “-”  2. Find element “1”  3. Find element “0”  4. Find element “+”  5. Find element “1”  6. Find element “0”  7. Find element “0”  8. Find element “eval” | -10+100= | 90 | Perform Addition | 90 | Pass |

|  |  |
| --- | --- |
| **MODULE/FUNCTIONALITY NAME:** | Positive multiplication |
| **UNIT/CLASS:** | PositiveMultiplication() |
| **CREATED BY:** | Dhiraj Shelke |
| **DATE OF CREATION:** | 15/12/21 |
| **DATE OF REVIEW:** | 15/12/21 |

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| **TEST CASE ID** | **TEST UNIT/CLASS** | **TEST CASE** | **PRE-CONDITION** | **TEST STEPS** | **TEST DATA** | **EXPECTED RESULT** | **POST CONDITION** | **ACTUAL RESULT** | **STATUS**  **(PASS/FAIL)** |
| 7 | PositiveMultiplication() | Multiplication Performed of positive integers | Need valid integers to perform operation | 1.Find element “1”  2. Find element “0”  3. Find element “\*”  4. Find element “5”  5. Find element “0”  6. Find element “eval” | 10\*50= | 500 | Perform multiplication | 500 | Pass |

|  |  |
| --- | --- |
| **MODULE/FUNCTIONALITY NAME:** | Negative multiplication |
| **UNIT/CLASS:** | NegativeMultiplication() |
| **CREATED BY:** | Dhiraj Shelke |
| **DATE OF CREATION:** | 15/12/21 |
| **DATE OF REVIEW:** | 15/12/21 |

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| **TEST CASE ID** | **TEST UNIT/CLASS** | **TEST CASE** | **PRE-CONDITION** | **TEST STEPS** | **TEST DATA** | **EXPECTED RESULT** | **POST CONDITION** | **ACTUAL RESULT** | **STATUS**  **(PASS/FAIL)** |
| 8 | NegativeMultiplication() | Multiplication Performed of Negative integers | Need valid integers to perform operation | 1.Find element “-”  2. Find element “1”  3. Find element “0”  4. Find element “\*”  5. Find element “5”  6. Find element “0”  7. Find element “eval” | -10\*50= | -500 | Perform multiplication | -500 | Pass |

**2.2 Integration Testing**

**Execution Status:** Completed

|  |  |
| --- | --- |
| **PROJECT NAME:** | BrowserLaunch\_TestNG |
| **MODULE/FUNCTIONALITY:** | Open Calculator Application |
| **CREATED BY:** | Dhiraj Shelke |
| **DATE OF CREATION:** | 15/12/2021 |
| **DATE OF REVIEW:** | 15/12/2021 |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **TEST CASE ID** | **TEST SCENARIO** | **TEST CASE** | **PRE-CONDITION** | **TEST STEPS** | **TEST DATA** | **EXPECTED RESULT** | **POST CONDITION** | **ACTUAL RESULT** | **STATUS**  **(PASS/FAIL)** |
| Open Calculator | VERIFY THE Opening of Calculator | Enter valid inputs | Need valid integers to perform operation | 1. Launch Chrome Browser  2. Open Calculator  3. Perform Calculations | Given inputs from Program | Successful Calculations | Calculations Successful and Chrome closes | Successful Calculations | Passed |

**2.3 Regression Testing**

**Execution Status:** Completed

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| **TEST CASE ID** | **TEST SCENARIO** | **TEST CASE** | **PRE-CONDITION** | **TEST STEPS** | **TEST DATA** | **EXPECTED RESULT** | **POST CONDITION** | **ACTUAL RESULT** | **STATUS**  **(PASS/FAIL)** |
| Open Calculator | Verify The Changes in PositiveMultiplication() Method | Enter valid inputs in PositiveMultiplication() | Need valid integers to perform operation | 1. Launch Chrome Browser  2. Open Calculator  3. Perform Calculations | Given inputs from Program  10\*60= | Successful Calculations and give 600 | Calculations Successful and Chrome closes | Successful Calculations | Passed |

**2.4 User Acceptance**

**Execution Status: Complete**

|  |  |
| --- | --- |
| **PROJECT NAME:** | BrowserLaunch\_TestNG |
| **MODULE/FUNCTIONALITY:** | Calculator Web Application |
| **CREATED BY:** | Dhiraj Shelke |
| **DATE OF CREATION:** | 15/12/21 |
| **DATE OF REVIEW:** | 15/12/21 |

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| --- | --- | --- | --- | --- | --- | --- |
| **ID** | **Test Description** | **Step #** | **Test Steps** | **Exp. Results** | **#Business Req. Covered** | **#Functional Req. Covered** |
| 1 | User Tries to open the application | 1 | Run the code in eclipse IDE | Code Runs | Calculator Opens | Code Executes |
| 2 | User performs calculation | 2 | Give Input by clicking icons | Gets Result in Textbox | Calculator Works | Calculator methods Executes without error |

**2.5 Compatibility Testing:**

**Execution Status:** Completed

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| **ID** | **Hardware Specification**  **(Processor/Clock Speed/RAM)** | **Operating System** | **Telecom Network** | **Browsing Application** | **Interactive Testing**  **(PASS/FAIL)** | **Comments** |
| 1 | 2gb ram | Windows | Jio | Chrome | Pass | None |
| 2 | 4gb ram | Windows | Vi | Chrome | Pass | None |

**2.6 Beta Testing**

**Execution Status:** Completed

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **ID** | **Test Description** | **Step #** | **Test Steps** | **Exp. Results** | **#Business Req. Covered** | **#Functional Req. Covered** |
| 1 | User Tries to open the application | 1 | Run the code in eclipse IDE | Code Runs | Calculator Opens | Code Executes |
| 2 | User performs calculation | 2 | Give Input by clicking icons | Gets Result in Textbox | Calculator Works | Calculator methods Executes without error |

**3.0 RESOURCES/ROLES & RESPONSIBILITIES**

Required Resources: Eclipse IDE

Responsibility: Create Test for each Operation

**4.0 TOOLS**

1. Selenium Webdriver

2. Selenium Standalone Server

**5.0 APPROVALS**

Name Signature Date

1.

2.

3.