**Project 2**

Write at least 10 requirements for a calculator. Make sure you use the word SHALL in each requirement and each requirement shall have an unique identifier such a number.

Using the test step template that you used for the first assignment, write a test case for each of your requirements. Include the requirement in each test case and each test case will have several (perhaps many) test steps. As you can see from the template, each test step also has a number.

Find an online calculator. Using your found calculator, run your test cases. It's alright to fail some test steps. Include a link in the test case.

|  |  |  |
| --- | --- | --- |
| Req ID | Requirement | Testable? |
| R1 | The calculator shall accept input from a number pad | Yes |
| R2 | The calculator shall preform addition functions | Yes |
| R3 | The calculator shall preform subtraction functions | Yes |
| R4 | The calculator shall preform multiplication functions | Yes |
| R5 | The calculator shall preform division functions | Yes |
| R6 | The calculator shall accept decimal number input | Yes |
| R7 | The calculator shall accept integer input | Yes |
| R8 | The calculator shall display the input given immediately | Yes |
| R9 | The calculator shall have a button that executes the calculations | Yes |
| R10 | The calculator shall display the results of the calculation | Yes |

# TEST CASES

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Test Case ID -** | | TR1 | **Test Case Description** | | The calculator shall accept input from a number pad | | | | | |
| **Created By** | | MH | **Reviewed By** | | MH | | **Version** | |  | |
|  |  |  |  |  |  |  |  |  |  |  |
| **QA Tester’s Log** | |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| **Tester's Name**  **Michael Hall** | |  | **Date Tested**  **06.06.22** | |  | | **Test Case (Pass/Fail/Not Executed)** | | Pass | |
|  |  |  |  |  |  |  |  |  |  |  |
| **S #** | **Prerequisites:** | | |  | **S #** | **Test Data Requirement** | | | | |
| 1 | Connected to the internet | | |  | 1 |  | | | | |
| 2 | Open web browser | | |  | 2 |  | | | | |
| 3 | Visit this site ([link](https://www.google.com/search?q=online+calculator&oq=online+clacu&aqs=chrome.1.69i57j0i13i30l9.2034j0j7&sourceid=chrome&ie=UTF-8)) | | |  | 3 |  | | | | |
| 4 | TR8 passed | | |  | 4 |  | | | | |
|  |  |  |  |  |  |  |  |  |  |  |
| **Test Conditions** | |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| **Step #** | **Step Details** | | **Expected Results** | | **Actual Results** | | | **Pass / Fail / Not executed / Suspended** | | |
|  |
| 1 | Press 1 on the number pad | | Button pressed displays on the calculator | |  | | |  | | |  |
| 2 | Press 2 on the number pad | | Button pressed displays on the calculator | |  | | |  | | |  |
| 3 | Press 3 on the number pad | | Button pressed displays on the calculator | |  | | |  | | |  |
| 4 | Press 3, then “.”, then 1, then 4 | | Buttons pressed displays on the calculator | |  | | |  | | |  |
| 5 |  | |  | |  | | |  | | |  |
|  |  | |  | |  | | |  | | |  |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Test Case ID – TR** | |  | **Test Case Description** | | The calculator shall preform addition functions | | | | | |
| **Created By** | | MH | **Reviewed By** | | MH | | **Version** | |  | |
|  |  |  |  |  |  |  |  |  |  |  |
| **QA Tester’s Log** | |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| **Tester's Name**  **Michael Hall** | |  | **Date Tested**  **6.06.22** | |  | | **Test Case (Pass/Fail/Not Executed)** | |  | |
|  |  |  |  |  |  |  |  |  |  |  |
| **S #** | **Prerequisites:** | | |  | **S #** | **Test Data Requirement** | | | | |
| 1 | Connected to the internet | | |  | 1 |  | | | | |
| 2 | Open web browser | | |  | 2 |  | | | | |
| 3 | Visit this site ([link](https://www.google.com/search?q=online+calculator&oq=online+clacu&aqs=chrome.1.69i57j0i13i30l9.2034j0j7&sourceid=chrome&ie=UTF-8)) | | |  | 3 |  | | | | |
| 4 | TR8, TR9, TR10 passed | | |  | 4 |  | | | | |
|  |  |  |  |  |  |  |  |  |  |  |
| **Test Conditions** | |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| **Step #** | **Step Details** | | **Expected Results** | | **Actual Results** | | | **Pass / Fail / Not executed / Suspended** | | |
|  |
| 1 | Press 1 button, press + button, press 1 button, press = button | | Display shows 2 | |  | | |  | | |  |
| 2 | Press 1 button, press . button, press 5 button, press + button, press 1 button, press = button | | Display shows 2.5 | |  | | |  | | |  |
| 3 |  | |  | |  | | |  | | |  |
| 4 |  | |  | |  | | |  | | |  |
|  |  | |  | |  | | |  | | |  |
|  |  | |  | |  | | |  | | |  |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Test Case ID – TR3** | |  | **Test Case Description** | | The calculator shall preform subtraction functions | | | | | |
| **Created By** | | MH | **Reviewed By** | | MH | | **Version** | |  | |
|  |  |  |  |  |  |  |  |  |  |  |
| **QA Tester’s Log** | |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| **Tester's Name**  **Michael Hall** | |  | **Date Tested**  **6.06.22** | |  | | **Test Case (Pass/Fail/Not Executed)** | |  | |
|  |  |  |  |  |  |  |  |  |  |  |
| **S #** | **Prerequisites:** | | |  | **S #** | **Test Data Requirement** | | | | |
| 1 | Connected to the internet | | |  | 1 |  | | | | |
| 2 | Open web browser | | |  | 2 |  | | | | |
| 3 | Visit this site ([link](https://www.google.com/search?q=online+calculator&oq=online+clacu&aqs=chrome.1.69i57j0i13i30l9.2034j0j7&sourceid=chrome&ie=UTF-8)) | | |  | 3 |  | | | | |
| 4 | TR8, TR9, TR10 passed | | |  | 4 |  | | | | |
|  |  |  |  |  |  |  |  |  |  |  |
| **Test Conditions** | |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| **Step #** | **Step Details** | | **Expected Results** | | **Actual Results** | | | **Pass / Fail / Not executed / Suspended** | | |
|  |
| 1 | Press 1 button, press - button, press 1 button, press = button | | Display shows 0 | |  | | |  | | |  |
| 2 | Press 1 button, press . button, press 5 button, press - button, press 1 button, press = button | | Display 0.5 | |  | | |  | | |  |
|  |  | |  | |  | | |  | | |  |
|  |  | |  | |  | | |  | | |  |
|  |  | |  | |  | | |  | | |  |
|  |  | |  | |  | | |  | | |  |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Test Case ID – TR4** | |  | **Test Case Description** | | The calculator shall preform multiplication functions | | | | | |
| **Created By** | | MH | **Reviewed By** | | MH | | **Version** | |  | |
|  |  |  |  |  |  |  |  |  |  |  |
| **QA Tester’s Log** | |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| **Tester's Name**  **Michael Hall** | |  | **Date Tested**  **6.06.22** | |  | | **Test Case (Pass/Fail/Not Executed)** | |  | |
|  |  |  |  |  |  |  |  |  |  |  |
| **S #** | **Prerequisites:** | | |  | **S #** | **Test Data Requirement** | | | | |
| 1 | Connected to the internet | | |  | 1 |  | | | | |
| 2 | Open web browser | | |  | 2 |  | | | | |
| 3 | Visit this site ([link](https://www.google.com/search?q=online+calculator&oq=online+clacu&aqs=chrome.1.69i57j0i13i30l9.2034j0j7&sourceid=chrome&ie=UTF-8)) | | |  | 3 |  | | | | |
| 4 | TR8, TR9, TR10 passed | | |  | 4 |  | | | | |
|  |  |  |  |  |  |  |  |  |  |  |
| **Test Conditions** | |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| **Step #** | **Step Details** | | **Expected Results** | | **Actual Results** | | | **Pass / Fail / Not executed / Suspended** | | |
|  |
| 1 | Press 2 button, press \* button, press 2 button, press = button | | Display will show 4 | |  | | |  | | |  |
| 2 | Press 2 button, press . button, press 5 button, press \* button, press 2 button, press = button | | Display will show 5 | |  | | |  | | |  |
|  |  | |  | |  | | |  | | |  |
|  |  | |  | |  | | |  | | |  |
|  |  | |  | |  | | |  | | |  |
|  |  | |  | |  | | |  | | |  |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Test Case ID – TR5** | |  | **Test Case Description** | | The calculator shall preform Division functions | | | | | |
| **Created By** | | MH | **Reviewed By** | | MH | | **Version** | |  | |
|  |  |  |  |  |  |  |  |  |  |  |
| **QA Tester’s Log** | |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| **Tester's Name**  **Michael Hall** | |  | **Date Tested**  **6.06.22** | |  | | **Test Case (Pass/Fail/Not Executed)** | |  | |
|  |  |  |  |  |  |  |  |  |  |  |
| **S #** | **Prerequisites:** | | |  | **S #** | **Test Data Requirement** | | | | |
| 1 | Connected to the internet | | |  | 1 |  | | | | |
| 2 | Open web browser | | |  | 2 |  | | | | |
| 3 | Visit this site ([link](https://www.google.com/search?q=online+calculator&oq=online+clacu&aqs=chrome.1.69i57j0i13i30l9.2034j0j7&sourceid=chrome&ie=UTF-8)) | | |  | 3 |  | | | | |
| 4 | TR8, TR9, TR10 passed | | |  | 4 |  | | | | |
|  |  |  |  |  |  |  |  |  |  |  |
| **Test Conditions** | |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| **Step #** | **Step Details** | | **Expected Results** | | **Actual Results** | | | **Pass / Fail / Not executed / Suspended** | | |
|  |
| 1 | Press 2 button, press / button, press 2 button, press = button | | Display will show 1 | |  | | |  | | |  |
| 2 | Press 2 button, press . button, press 5 button, press / button, press 2 button, press = button | | Display will show 1.25 | |  | | |  | | |  |
|  |  | |  | |  | | |  | | |  |
|  |  | |  | |  | | |  | | |  |
|  |  | |  | |  | | |  | | |  |
|  |  | |  | |  | | |  | | |  |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Test Case ID – TR6** | |  | **Test Case Description** | | The calculator shall accept decimal number input | | | | | |
| **Created By** | | MH | **Reviewed By** | | MH | | **Version** | |  | |
|  |  |  |  |  |  |  |  |  |  |  |
| **QA Tester’s Log** | |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| **Tester's Name**  **Michael Hall** | |  | **Date Tested**  **6.10.22** | |  | | **Test Case (Pass/Fail/Not Executed)** | |  | |
|  |  |  |  |  |  |  |  |  |  |  |
| **S #** | **Prerequisites:** | | |  | **S #** | **Test Data Requirement** | | | | |
| 1 | Connected to the internet | | |  | 1 |  | | | | |
| 2 | Open web browser | | |  | 2 |  | | | | |
| 3 | Visit this site ([link](https://www.google.com/search?q=online+calculator&oq=online+clacu&aqs=chrome.1.69i57j0i13i30l9.2034j0j7&sourceid=chrome&ie=UTF-8)) | | |  | 3 |  | | | | |
| 4 | TR8 passed | | |  | 4 |  | | | | |
|  |  |  |  |  |  |  |  |  |  |  |
| **Test Conditions** | |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| **Step #** | **Step Details** | | **Expected Results** | | **Actual Results** | | | **Pass / Fail / Not executed / Suspended** | | |
|  |
| 1 | Press 1 button, press . button, press 8 button | | Display will show 1.8 | |  | | |  | | |  |
| 2 | Press 1 button, press 0 button, press . button, press 8 button, press 9 button | | Display will show 10.89 | |  | | |  | | |  |
| 3 |  | |  | |  | | |  | | |  |
|  |  | |  | |  | | |  | | |  |
|  |  | |  | |  | | |  | | |  |
|  |  | |  | |  | | |  | | |  |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Test Case ID – TR8** | |  | **Test Case Description** | | The calculator shall display the input given immediately | | | | | |
| **Created By** | | MH | **Reviewed By** | | MH | | **Version** | |  | |
|  |  |  |  |  |  |  |  |  |  |  |
| **QA Tester’s Log** | |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| **Tester's Name**  **Michael Hall** | |  | **Date Tested**  **6.10.22** | |  | | **Test Case (Pass/Fail/Not Executed)** | |  | |
|  |  |  |  |  |  |  |  |  |  |  |
| **S #** | **Prerequisites:** | | |  | **S #** | **Test Data Requirement** | | | | |
| 1 | Connected to the internet | | |  | 1 |  | | | | |
| 2 | Open web browser | | |  | 2 |  | | | | |
| 3 | Visit this site ([link](https://www.google.com/search?q=online+calculator&oq=online+clacu&aqs=chrome.1.69i57j0i13i30l9.2034j0j7&sourceid=chrome&ie=UTF-8)) | | |  | 3 |  | | | | |
| 4 |  | | |  | 4 |  | | | | |
|  |  |  |  |  |  |  |  |  |  |  |
| **Test Conditions** | |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| **Step #** | **Step Details** | | **Expected Results** | | **Actual Results** | | | **Pass / Fail / Not executed / Suspended** | | |
|  |
| 1 | Press 1 button | | Number 1 displays on the calculator | |  | | |  | | |  |
| 2 | Press 3 button | | Number 1 displays on the calculator | |  | | |  | | |  |
| 3 | Press 5 button | | Number 1 displays on the calculator | |  | | |  | | |  |
|  |  | |  | |  | | |  | | |  |
|  |  | |  | |  | | |  | | |  |
|  |  | |  | |  | | |  | | |  |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Test Case ID – TR9** | |  | **Test Case Description** | | The calculator shall have an = button that executes the calculations | | | | | |
| **Created By** | | MH | **Reviewed By** | | MH | | **Version** | |  | |
|  |  |  |  |  |  |  |  |  |  |  |
| **QA Tester’s Log** | |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| **Tester's Name**  **Michael Hall** | |  | **Date Tested**  **6.12.22** | |  | | **Test Case (Pass/Fail/Not Executed)** | |  | |
|  |  |  |  |  |  |  |  |  |  |  |
| **S #** | **Prerequisites:** | | |  | **S #** | **Test Data Requirement** | | | | |
| 1 | Connected to the internet | | |  | 1 |  | | | | |
| 2 | Open web browser | | |  | 2 |  | | | | |
| 3 | Visit this site ([link](https://www.google.com/search?q=online+calculator&oq=online+clacu&aqs=chrome.1.69i57j0i13i30l9.2034j0j7&sourceid=chrome&ie=UTF-8)) | | |  | 3 |  | | | | |
| 4 | TR8 and TR10 passed | | |  | 4 |  | | | | |
|  |  |  |  |  |  |  |  |  |  |  |
| **Test Conditions** | |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| **Step #** | **Step Details** | | **Expected Results** | | **Actual Results** | | | **Pass / Fail / Not executed / Suspended** | | |
|  |
| 1 | Enter 1 + 1 equation, press = button. | | 2 displays as a result of calculation | |  | | |  | | |  |
| 2 |  | |  | |  | | |  | | |  |
| 3 |  | |  | |  | | |  | | |  |
|  |  | |  | |  | | |  | | |  |
|  |  | |  | |  | | |  | | |  |
|  |  | |  | |  | | |  | | |  |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Test Case ID – TR10** | |  | **Test Case Description** | | The calculator shall display the results of the calculation | | | | | |
| **Created By** | | MH | **Reviewed By** | | MH | | **Version** | |  | |
|  |  |  |  |  |  |  |  |  |  |  |
| **QA Tester’s Log** | |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| **Tester's Name**  **Michael Hall** | |  | **Date Tested**  **6.12.22** | |  | | **Test Case (Pass/Fail/Not Executed)** | |  | |
|  |  |  |  |  |  |  |  |  |  |  |
| **S #** | **Prerequisites:** | | |  | **S #** | **Test Data Requirement** | | | | |
| 1 | Connected to the internet | | |  | 1 |  | | | | |
| 2 | Open web browser | | |  | 2 |  | | | | |
| 3 | Visit this site ([link](https://www.google.com/search?q=online+calculator&oq=online+clacu&aqs=chrome.1.69i57j0i13i30l9.2034j0j7&sourceid=chrome&ie=UTF-8)) | | |  | 3 |  | | | | |
| 4 | TR8 passed | | |  | 4 |  | | | | |
|  |  |  |  |  |  |  |  |  |  |  |
| **Test Conditions** | |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| **Step #** | **Step Details** | | **Expected Results** | | **Actual Results** | | | **Pass / Fail / Not executed / Suspended** | | |
|  |
| 1 | Enter 2-3+4 equation, press = button | | Display shows 3 as the answer | |  | | |  | | |  |
|  |  | |  | |  | | |  | | |  |
|  |  | |  | |  | | |  | | |  |
|  |  | |  | |  | | |  | | |  |
|  |  | |  | |  | | |  | | |  |
|  |  | |  | |  | | |  | | |  |