**I'll divide test cases into Manual and Automation buckets.**

**Manual Test Cases**

**(These are exploratory, usability, UI checks.)**

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| **#** | **Test Scenario** | **Expected Result** | **Result** |
| 1. | Verify UI elements on Home Page (Input box, Submit button) | Elements should be visible and enabled | Pass |
| 2. | Verify UI elements on Result Page (Output displayed correctly) | Result page should display the output | Pass |
| 3 | Enter empty input and click submit | Should show an error or "length = 0" | Pass |
| 4 | Input special characters like "@#$%^" | Should handle gracefully (no crash) | Pass |
| 5 | Input very long string (10,000+ characters) | System should handle performance well | Pass |
| 6 | Check page navigation after submit | It should move to result page | Pass |
| 7 | Test browser back button after submit | Should retain input or handle properly | Pass |
| 8 | Test on different browsers (Chrome, Firefox, Edge) | Cross-browser compatibility should work | Pass |
| 9 | Input only spaces " " | Should handle and display correct output | Pass |
| 10 | Visual Check: Is the result formatted properly? | UI should not be broken | Pass |

**Automation Test Cases**

**(Stable, repeatable scenarios — best for automation.)**

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| --- | --- | --- | --- |
| **\*** | **Test Scenario** | **Expected Result** | **Result** |
| 1 | Enter normal string "abcabcbb" → Verify output is 3 | Output must be correct | Pass |
| 2 | Enter repeated characters "bbbbb" → Verify output is 1 | Output must be correct | Pass |
| 3 | Enter string with special characters "abc$%abc" → Verify output | Output must be correct ignoring symbols | Pass |
| 4 | Enter spaces only " " → Output should be 1 or 0 | As per requirement | Pass |
| 5 | Submit without entering any input → Check for error or default output | Validation must work | Pass |
| 6 | Refresh result page and verify result persists | Refresh shouldn't cause crash | Pass |
| 7 | Input "pwwkew" and verify output is 3 | Result page shows correct number | Pass |