
Mortgage Calculator – Test Plan

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1. Objective

Validate the accuracy, reliability, and robustness of the Mortgage Calculator at <https://www.calculator.net/mortgage-calculator.html>. This includes verifying correct outputs, boundary conditions, error handling, and cross-browser compatibility.

2. Strategy

- **Functional Testing:** Ensure the core calculation logic produces correct results.
 - **Negative Testing:** Input invalid, extreme, or edge-case data.
 - **UI Testing:** Validate labels, input fields, and formatting.
 - **Responsiveness:** Check layout on different screen sizes.
 - **Automation Testing:** Cover regression and repeatable scenarios using Selenium (Java + TestNG).
 - **Cross-Browser:** Test on Chrome, Firefox, Edge.
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3. Test Scenarios & Cases

ID	Test Scenario	Test Case Description
TC1	Basic Calculation	Input valid loan, interest, term – verify monthly payment.
TC2	Invalid Loan Amount	Enter negative/zero loan – expect validation or correct default.
TC3	Invalid Interest Rate	Test 0% and negative interest.
TC4	Term Boundaries	Try 1-year and 50-year terms.
TC5	Optional Fields	Include PMI, property tax – ensure they're calculated.
TC6	Non-numeric Inputs	Enter “abc”, “!@#” – field should reject or handle gracefully.
TC7	Clear Fields	Test clearing inputs manually or with reset (if available).
TC8	Currency Formatting	Ensure \$ and decimals appear correctly in result.
TC9	Dynamic Updates	Change inputs – output should update upon “Calculate”.
TC10	Performance	Large loan values – ensure fast and correct result.

ID	Test Scenario	Test Case Description
TC11	Responsiveness	Open page on mobile screen – check layout and usability.

4. Sample Test Data

Home Price	Down Payment	Interest Rate	Term (Years)	Expected Payment (approx)
\$300,000	\$60,000	3.5%	30	\$1,347.13
\$150,000	\$0	0%	15	\$833.33
\$500,000	\$100,000	7%	10	\$5,806.66
-\$100,000	\$0	5%	20	Error/Validation Expected

5. Assumptions

- No authentication or session management.
 - Data does not persist between sessions.
 - Focus is UI-side only (no API/backend test).
 - Application assumes US mortgage conventions.
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6. Tools & Tech

- Java 11+
 - Selenium WebDriver
 - TestNG
 - Maven
 - ChromeDriver
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7. Recommendations

- Use Page Object Model (POM) for scalable automation.
 - Integrate ExtentReports or Allure for reporting.
 - Consider CI setup (GitHub Actions, Jenkins) for automation pipeline.
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