**Test Plan for Calculator JavaScript Code**

**1. Introduction**

This document outlines the test plan for the Calculator JavaScript code. The purpose of this test plan is to ensure that the calculator functions correctly for addition, subtraction, multiplication, and division operations, and that edge cases such as division by zero are handled appropriately.

**2. Objectives**

* Validate the correctness of addition, subtraction, multiplication, and division operations.
* Verify that the calculator handles edge cases such as division by zero.
* Ensure the code is robust and reliable.

**3. Scope**

The scope of testing includes:

* Functional testing of addition, subtraction, multiplication, and division operations.
* Testing of edge cases, including division by zero.
* Cross-browser compatibility testing (if applicable).

**4. Requirements**

The requirements for testing the Calculator JavaScript code are as follows:

* **REQ001: Addition functionality**
  + The calculator should correctly add two numbers.
* **REQ002: Subtraction functionality**
  + The calculator should correctly subtract one number from another.
* **REQ003: Multiplication functionality**
  + The calculator should correctly multiply two numbers.
* **REQ004: Division functionality**
  + The calculator should correctly divide one number by another.
* **REQ005: Division by zero handling**
  + The calculator should throw an error when attempting to divide by zero.

**5. Test Cases**

A test case document will be created to outline various test scenarios, including positive and negative test cases, boundary conditions, and edge cases.

**6. Testing Approach**

The testing approach will include:

* Unit testing: Individual methods (add, subtract, multiply, divide) will be tested in isolation.
* Integration testing: Testing the interaction between different methods and overall functionality.

**7. Test Environment**

The JavaScript code will be tested in the following environment:

* Node.js environment with Jest testing framework.

**8. Test Schedule**

Testing activities will be conducted according to the following schedule:

* Unit testing: Feb 2nd, 2024
* Integration testing: Feb 3rd, 2024

**9. Responsibilities**

* Development Team: Responsible for implementing the Calculator class and its methods.
* Testing Team: Responsible for creating and executing test cases, documenting defects, and verifying fixes.

**10. Risks and Mitigation**

* Risk: Inadequate test coverage. Mitigation: Ensure comprehensive test cases cover all aspects of the code.
* Risk: Handling of edge cases. Mitigation: Include specific test cases to verify the handling of edge cases such as division by zero.

**11. Sample Traceability Matrix**

The traceability matrix will map the requirements to the corresponding test cases and their statuses.

**12. Defect Report**

A defect report will be created to document any issues found during testing, including the following information:

* Defect ID
* Description
* Steps to reproduce
* Severity
* Status
* Assigned to
* Resolution

This test plan outlines the approach, scope, and responsibilities for testing the Calculator JavaScript code. It will be updated as needed throughout the testing process.