

# Project Deliverable 2

SOFE 3980U: Software Quality

73385- Group A1

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**Introduction:**

In this report, we will present a summary of all the test cases written for the Binary Calculator Project. The test cases have been written to ensure the reliability and functionality of the binary calculator application. The report will provide a detailed explanation of each test case, including the target (class/function), its purpose, and a snapshot of the surefire report for each Test file.

Page 3-4: Test Case Summary of BinaryCalculator.java

Overview of all the test cases, highlighting the target (class/function) and its purpose.

Table format with columns: Test Case ID, Target, Purpose

Page 5-6: Test Case Summary of BinaryAPICalculator.java

Overview of all the test cases, highlighting the target (class/function) and its purpose.

Table format with columns: Test Case ID, Target, Purpose

Page 7: Test Execution and Surefire Reports

## BinaryControllerTest Test Cases

TEST ID	TARGET	PURPOSE
getDefault	BinaryController	To test if on default, before any operand has been entered, if the operand1 value is blank and the operand1 text box has not been focused.
getParameter	BinaryController	Upon entering an operand, test if the operand now has a value and if the text box has been focused.
postParameter	BinaryController, Binary.add()	Test if the add function performs the correct operation and produces the expected output.
postParameterADD1	BinaryController, Binary.add()	Test if the calculator handles an add operation that produces a carry and gives the proper result value.
postParameterADD2	BinaryController, Binary.add()	Test if the calculator handles an add operation that uses operands of different lengths.
postParameterADD3	BinaryController, Binary.add()	Test operands with incorrect type (not 0 or 1) to verify the operand gets treated as a 0.
postParameterMULT1	BinaryController, Binary.mult()	Test if the multiplication calculation is mathematically correct.
postParameterMULT2	BinaryController, Binary.mult()	Test if multiplication is handled with operands of different lengths
postParameterMULT3	BinaryController, Binary.mult()	Test if multiplication handles operands of the wrong type (not 1 or 0) and treats them as 0.
postParameterOR1	BinaryController, Binary.OR()	Test if the OR calculation is mathematically correct.
postParameterOR2	BinaryController, Binary.OR()	Test if the OR function handles operands of different lengths

postParameterOR3	BinaryController, Binary.OR()	Test if OR function handles operands of the wrong type (not 1 or 0) and treats them as 0.
postParameterAND1	BinaryController, Binary.AND()	Test if the AND calculation is mathematically correct.
postParameterAND2	BinaryController, Binary.AND()	Test if the AND function handles operands of different lengths
postParameterAND3	BinaryController, Binary.AND()	Test if AND function handles operands of the wrong type (not 1 or 0) and treats them as 0.

## BinaryAPIControllerTest Test Cases

TEST ID	TARGET	PURPOSE
add	BinaryAPIController, Binary.add()	Test if string output corresponds to the correct value for the addition of two operands
add2	BinaryAPIController, Binary.add()	Test if the json output corresponds to the correct value for the addition of two operands
add3	BinaryAPIController, Binary.add()	Test if the json output corresponds to the correct value for the addition of two operands that produce a carry.
add4	BinaryAPIController, Binary.add()	Test if the json output corresponds to the correct value for the addition of two operands of different lengths.
add5	BinaryAPIController, Binary.add()	Test if the json output corresponds to the correct value for the addition of two operands with incorrect type (not 0 or 1) to verify the operand gets treated as a 0.
multiply	BinaryAPIController, Binary.mult()	Test if string output corresponds to the correct value for the multiplication of two operands
multiply1	BinaryAPIController, Binary.mult()	Test if the json output corresponds to the correct value for the multiplication of two operands
multiply2	BinaryAPIController, Binary.mult()	Test if the json output corresponds to the correct value for the multiplication of two operands of different lengths.
multiply3	BinaryAPIController, Binary.mult()	Test if the json output corresponds to the correct value for the multiplication of an operand with the wrong type (not 1 or 0) and treats them as 0.
or	BinaryAPIController, Binary.OR()	Test if string output corresponds to the correct value for the OR

		operation of two operands.
or1	BinaryAPIController, Binary.OR()	Test if json output corresponds to the correct value for the OR operation of two operands.
or2	BinaryAPIController, Binary.OR()	Test if json output corresponds to the correct value for the OR operation of two operands with different lengths.
or3	BinaryAPIController, Binary.OR()	Test if json output corresponds to the correct value for the OR operation of two operands with incorrect type (not 0 or 1) to verify the operand gets treated as a 0.
and	BinaryAPIController, Binary.AND()	Test if string output corresponds to the correct value for the AND operation of two operands.
and1	BinaryAPIController, Binary.AND()	Test if json output corresponds to the correct value for the AND operation of two operands.
and2	BinaryAPIController, Binary.AND()	Test if json output corresponds to the correct value for the AND operation of two operands of different lengths.
and3	BinaryAPIController, Binary.AND()	Test if json output corresponds to the correct value for the AND operation of two operands with incorrect type (not 0 or 1) to verify the operand gets treated as a 0.

## Running the Test Cases

```
conservice applicationTaskExecutor
[INFO]
[INFO] Results:
[INFO]
[INFO] Tests run: 40, Failures: 0, Errors: 0, Skipped: 0
[INFO]
```

## Maven Surefire Reports

### BinaryControllerTest

```
Webapp > target > surefire-reports > com.ontariotechu.sofe3980U.BinaryControllerTest.txt
1 -----
2 Test set: com.ontariotechu.sofe3980U.BinaryControllerTest
3 -----
4 Tests run: 15, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 1.126 s - in com.ontariotechu.sofe3980U.BinaryControllerTest
5 |
```

### BinaryAPIControllerTest

```
Webapp > target > surefire-reports > com.ontariotechu.sofe3980U.BinaryAPIControllerTest.txt
1 -----
2 Test set: com.ontariotechu.sofe3980U.BinaryAPIControllerTest
3 -----
4 Tests run: 17, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 3.845 s - in com.ontariotechu.sofe3980U.BinaryAPIControllerTest
5
```

### HelloControllerTest

```
Webapp > target > surefire-reports > com.ontariotechu.sofe3980U>HelloControllerTest.txt
1 -----
2 Test set: com.ontariotechu.sofe3980U>HelloControllerTest
3 -----
4 Tests run: 2, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 0.639 s - in com.ontariotechu.sofe3980U>HelloControllerTest
5
```

### HelloAPIControllerTest

```
Webapp > target > surefire-reports > com.ontariotechu.sofe3980U>HelloAPIControllerTest.txt
1 -----
2 Test set: com.ontariotechu.sofe3980U>HelloAPIControllerTest
3 -----
4 Tests run: 6, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 0.86 s - in com.ontariotechu.sofe3980U>HelloAPIControllerTest
5
```