**1.** **FineCalculationTester.Java**

**TC\_01- Fine for single due day:**

Pre-conditions: patron and a book should be initialized;

Post-conditions: A fine should be calculated.

Data required: patronId and bookId

Description: In the setup part a library is initialized and a loan (borrowing a book) is performed with a due date of provided sDate1 parameter. In this case which is of one day before. In the testing function first, the status is update and then the fine is calculated.  
**Note:** This test case output is before the change.

Text

Description automatically generated

Output:

Graphical user interface, text

Description automatically generated

This testcase is failed due to the wrong value of MILLIS\_PER\_DAY variable in the Calendar class. While calculating the fine the difference between the days is return in the form of total milliseconds which is afterwards are supposed to be divided by MILLIS\_PER\_DAY and we can get the difference between days. Whereas the MILLIS\_PER\_DAY variable’s value is set to millis for two days.

Graphical user interface, text, website

Description automatically generated

Text

Description automatically generated

Output:

Graphical user interface, text

Description automatically generated

Replace the value of the variable MILLIS\_PER\_DAY to 86400000 fixes our issue.

Text

Description automatically generated

**TC\_02- Fine for multiple due days:**

Pre-conditions: patron and a book should be initialized;

Post-conditions: A fine should be calculated.

Data required: patronId and bookId

Description: In the setup part a library is initialized and a loan (borrowing a book) is performed with a due date of provided sDate1 parameter. In this case which is of one day before. In the testing function first, the status is update and then the fine is calculated.  
**Note:** This test case output is before the change.

**Text

Description automatically generated**

**Output:**

**Text

Description automatically generated**