

JUnit Parameterized Runner

The archive *bitTestDemo.zip* contains a class *Bit.java* and a parameterized test suite for that class.

- Unzip *bitTestDemo.zip*
- Create an Eclipse project with the unzipped folder as source
- Add Junit 4 libraries to the class path (if needed)

Run *SimpleParameterizedBitTest* and familiarize yourself with its contents.

Exercise

Class *Date* provides a basic implementation of a data structure for dates. Method *nextDate* returns an instance of *Date* corresponding to the date of the day after the executing instance.

The implementation must ensure different constraints for dates are respected such as the following.

- A valid date is a triple (year, month, day) with
 - year ≥ 0
 - $1 \leq \text{month} \leq 12$
 - $1 \leq \text{day} \leq 31$
- The month of February counts 28 days on a non-leap year and 29 days on a leap year.
A year is a leap year if it is divisible by 4, unless it is a century year. Century years are leap years only if they are multiples of 400. So 2000 is a leap year while the year 1900 is not a leap year.

The following table lists a test suite consisting of a set of test cases defined for method *nextDate*.

- I. Provide a Junit implementation of these tests without the *Parameterized* runner
- II. Provide a Junit implementation of these tests with the *Parameterized* runner, you will need to create two *Parameterized* test suites (one for test cases that do not result in an exception, and one for test cases that do), and use the *Suite* runner to run both.

| TC | Input | | | Expected Output | | |
|----|-------|-------|-----|--------------------------|-------|-----|
| | Year | Month | Day | Year | Month | Day |
| 1 | 1700 | 06 | 20 | 1700 | 06 | 21 |
| 2 | 2005 | 04 | 15 | 2005 | 04 | 16 |
| 3 | 1901 | 07 | 20 | 1901 | 07 | 21 |
| 4 | 3456 | 03 | 27 | 3456 | 03 | 28 |
| 5 | 1500 | 02 | 17 | 1500 | 02 | 18 |
| 6 | 1700 | 06 | 29 | 1700 | 06 | 30 |
| 7 | 1800 | 11 | 29 | 1800 | 11 | 30 |
| 8 | 3453 | 01 | 29 | 3453 | 01 | 30 |
| 9 | 444 | 02 | 29 | 444 | 03 | 01 |
| 10 | 2005 | 04 | 30 | 2005 | 05 | 01 |
| 11 | 3453 | 01 | 30 | 3453 | 01 | 31 |
| 12 | 3456 | 03 | 30 | 3456 | 03 | 31 |
| 13 | 1901 | 07 | 31 | 1901 | 08 | 01 |
| 14 | 3453 | 01 | 31 | 3453 | 02 | 01 |
| 15 | 3456 | 12 | 31 | 3457 | 01 | 01 |
| 16 | 1500 | 02 | 31 | IllegalArgumentException | | |
| 17 | 1500 | 02 | 29 | IllegalArgumentException | | |
| 18 | -1 | 10 | 20 | IllegalArgumentException | | |
| 19 | 1458 | 15 | 12 | IllegalArgumentException | | |
| 20 | 1975 | 6 | -50 | IllegalArgumentException | | |