

CONCORDIA UNIVERSITY

Problem 5

SOEN 6011 - SOFTWARE ENGINEERING PROCESS

ETERNITY: FUNCTION

(σ)

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Repository Address:
<https://github.com/pragya231/SOEN6011>

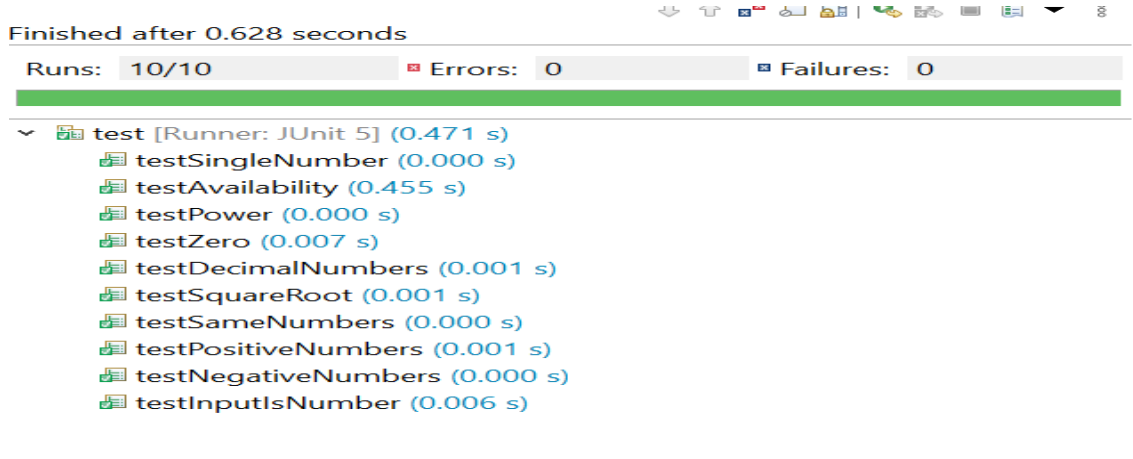
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1 Unit Test Cases Description

1.1 Test Environment

1. Eclipse IDE for Java.
2. JUnit4 framework in Eclipse IDE for testing.



1.2 Descriptions

The unit test cases for σ function is done using Junit4 which is traceable to the requirements in Problem 2.

Test Case : F8_UnitTestCase_1

| | |
|-----------------|--|
| Test Case ID | F8_TestInputZero |
| Requirement ID | R1 |
| Action | The user gives an input 0 and then clicks SD(σ) button. |
| Input(s) | 0 |
| Expected Output | 0 |
| Actual Output | 0 |
| Test Result | Success |

Test Case : F8_UnitTestCase_2

| | |
|------------------------|--|
| Test Case ID | F8_TestSingleNumber |
| Requirement ID | R2 |
| Action | The user gives an input 5 and then clicks SD(σ) button. |
| Input(s) | 6 |
| Expected Output | 0 |
| Actual Output | 0 |
| Test Result | Success |

Test Case : F8_UnitTestCase_3

| | |
|------------------------|--|
| Test Case ID | F8_TestSameNumbers |
| Requirement ID | R3 |
| Action | The user gives an input [8 8 8 8 8] and then clicks SD(σ) button. |
| Input(s) | [8 8 8 8 8] |
| Expected Output | 0 |
| Actual Output | 0 |
| Test Result | Success |

Test Case : F8_UnitTestCase_4

| | |
|------------------------|---|
| Test Case ID | F8_TestNegativeNumbers |
| Requirement ID | R4 |
| Action | The user gives an input [-3 -7 2 -1 9] and then clicks SD(σ) button. |
| Input(s) | [-3 -7 2 -1 9] |
| Expected Output | 5.3665631459995 |
| Actual Output | 5.3665631459995 |
| Test Result | Success |

Test Case : F8_UnitTestCase_5

| | |
|------------------------|---|
| Test Case ID | F8_TestPositiveNumbers |
| Requirement ID | R5 |
| Action | The user gives an input [8 6 9 10 5] and then clicks SD(σ) button. |
| Input(s) | [8 6 9 10 5] |
| Expected Output | 1.8547236990991407 |
| Actual Output | 1.8547236990991407 |
| Test Result | Success |

Test Case : F8_UnitTestCase_6

| | |
|------------------------|--|
| Test Case ID | F8_TestDecimalNumbers |
| Requirement ID | R6 |
| Action | The user gives an input [3.1 6.4 2.7 7.5 4] and then clicks SD(σ) button. |
| Input(s) | [3.1 6.4 2.7 7.5 4] |
| Expected Output | 1.8853116453255 |
| Actual Output | 1.8853116453255 |
| Test Result | Success |

Test Case : F8_UnitTestCase_7

| | |
|------------------------|--|
| Test Case ID | F8_TestSquareRoot |
| Requirement ID | R7 |
| Action | Input 2 is given to the \sqrt{x} function. |
| Input(s) | 2 |
| Expected Output | 1.4142135623746899 |
| Actual Output | 1.4142135623746899 |
| Test Result | Success |

Test Case : F8_UnitTestCase_8

| | |
|------------------------|---|
| Test Case ID | F8_TestPower |
| Requirement ID | R8 |
| Action | Input 5 as base and exponent 2 is given to the power(x,y) function. |
| Input(s) | 5,2 |
| Expected Output | 25 |
| Actual Output | 25 |
| Test Result | Success |

Test Case : F8_UnitTestCase_9

| | |
|------------------------|--|
| Test Case ID | F8_TestInputisNumber |
| Requirement ID | R9 |
| Action | The user gives an input "g" and then clicks SD(σ) button. |
| Input(s) | "h" |
| Expected Output | false |
| Actual Output | false |
| Test Result | Success |

Test Case : F8_UnitTestCase_10

| | |
|------------------------|---|
| Test Case ID | F8_TestAvailability |
| Requirement ID | R10 |
| Action | The user gives any input then clicks SD(σ) button. |
| Input(s) | Any real numbers |
| Expected Output | positive real number |
| Actual Output | positive real number |
| Test Result | Success |

Bibliography

- [1] ReqView : Nykamp DQ: Requirements Specification Templates
<https://www.reqview.com/doc/iso-iec-ieee-29148-templates>
- [2] 29148-2018-ISO/IEC/IEEE International Standard-Systems and software engineering-Life cycle processes-Requirements engineering,
<https://standards.ieee.org/standard/29148-2018.html>