CONCORDIA UNIVERSITY

SOEN-6011 Software Engineering Processes

SCIENTIFIC CALCULATOR

DELIVERABLE 3 (D3)

Problem 5 & 7

GitHub : `https://github.com/san089/SOEN-6011`

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1 Problem 7: Testing

1.1 Project Details

Below are the details about project.

Table 1: Module 2 - tan(x)

Project Name	Scientific Calculator
Module Name	$\tan(x)$
Developed By	Anusha Keralapura Thandavamurthy
Development End	29-July-2019
Tested By	Sanchit Kumar
Testing End	01-August-2019.

1.2 Testing Detailed Report

1.2.1 $\cos(x)$ Testing Reports

- **Test Case ID**   : TC1
  TYPE   : Functional
  DESCRIPTION   : cos(x) value test.
  INPUT   : 0.7853975
  EXPECTED RESULT : 0.7071072502792262
  ACTUAL RESULT   : 0.7071072502792262
  TEST RESULT   : PASS

- **Test Case ID**   : TC2
  TYPE   : Functional
  DESCRIPTION   : cos(x) value test.
  INPUT   : 0
  EXPECTED RESULT : 1
  ACTUAL RESULT   : 1
  TEST RESULT   : PASS

- **Test Case ID**   : TC3
  TYPE   : Functional
  DESCRIPTION   : cos(x) value test.
  INPUT   : 3.14159
  EXPECTED RESULT : -1.0

ACTUAL RESULT   : -1.0000000035255
TEST RESULT   : FAIL

- **Test Case ID**   : TC4
  TYPE   : Functional
  DESCRIPTION   : $\cos(x)$ value test.
  INPUT   : 4.7123889
  EXPECTED RESULT : 0
  ACTUAL RESULT   : -1.151329162868764E-5
  TEST RESULT   : FAIL

1.2.2 $\sin(x)$ **Testing Reports**

- **Test Case ID**   : TC5
  TYPE   : Functional
  DESCRIPTION   : $\sin(x)$ value test.
  INPUT   : 0.7853975
  EXPECTED RESULT : 0.7071072502792262
  ACTUAL RESULT   : 0.7071072502792262
  TEST RESULT   : PASS

- **Test Case ID**   : TC6
  TYPE   : Functional
  DESCRIPTION   : $\sin(x)$ value test.
  INPUT   : 0
  EXPECTED RESULT : 0
  ACTUAL RESULT   : 0
  TEST RESULT   : PASS

- **Test Case ID**   : TC7
  TYPE   : Functional
  DESCRIPTION   : $\sin(x)$ value test.
  INPUT   : 3.14159
  EXPECTED RESULT : 0
  ACTUAL RESULT   : 2.65306088421985E-6
  TEST RESULT   : FAIL

- **Test Case ID**   : TC8
  TYPE   : Functional
  DESCRIPTION   : $\sin(x)$ value test.
  INPUT   : 4.7123889
  EXPECTED RESULT : -1

ACTUAL RESULT : -1.0000025759866482
TEST RESULT : FAIL

1.2.3 $\tan(x)$ **Testing Reports**

- **Test Case ID** : TC9
  TYPE : Functional
  DESCRIPTION : $\tan(x)$ value test.
  INPUT : 39
  EXPECTED RESULT : 0.809783081231065
  ACTUAL RESULT : 0.809783081231065
  TEST RESULT : PASS

- **Test Case ID** : TC10
  TYPE : Functional
  DESCRIPTION : $\tan(x)$ value test.
  INPUT : 0
  EXPECTED RESULT : 0
  ACTUAL RESULT : 0
  TEST RESULT : PASS

- **Test Case ID** : TC11
  TYPE : Functional
  DESCRIPTION : $\tan(x)$ value test.
  INPUT : 225
  EXPECTED RESULT : 1
  ACTUAL RESULT : 0.999993366047522
  TEST RESULT : FAIL

- **Test Case ID** : TC12
  TYPE : Functional
  DESCRIPTION : $\tan(x)$ value test.
  INPUT : 315
  EXPECTED RESULT : -1
  ACTUAL RESULT : -1.0000092876074058
  TEST RESULT : FAIL

1.2.4 $\tan(x)$ **Negative Values Testing Reports**

- **Test Case ID** : TC13
  TYPE : Functional

DESCRIPTION   : $\tan(x)$ negative value test.
INPUT   : -64
EXPECTED RESULT : -2.0502989318619114
ACTUAL RESULT   : -2.0502989318619114
TEST RESULT   : PASS

- **Test Case ID**   : TC14
  TYPE   : Functional
  DESCRIPTION   : $\tan(x)$ negative value test.
  INPUT   : -45
  EXPECTED RESULT : -1
  ACTUAL RESULT   : -0.9999986732059835
  TEST RESULT   : FAIL

- **Test Case ID**   : TC15
  TYPE   : Functional
  DESCRIPTION   : $\tan(x)$ negative value test.
  INPUT   : -180
  EXPECTED RESULT : 0
  ACTUAL RESULT   : 0
  TEST RESULT   : PASS

1.2.5 $\tan(x)$ Decimal Values Testing Reports

- **Test Case ID**   : TC16
  TYPE   : Functional
  DESCRIPTION   : $\tan(x)$ decimal value test.
  INPUT   : 66.8
  EXPECTED RESULT : 2.333168462359474
  ACTUAL RESULT   : 2.333168462359474
  TEST RESULT   : PASS

- **Test Case ID**   : TC17
  TYPE   : Functional
  DESCRIPTION   : $\tan(x)$ decimal value test.
  INPUT   : 1111111111111111111111.99999999999999999
  EXPECTED RESULT : 0.62486935
  ACTUAL RESULT   : Program Not Responding
  TEST RESULT   : FAIL

- **Test Case ID**   : TC18
  TYPE   : Functional

DESCRIPTION   : $\tan(x)$ decimal value test.
INPUT   : 89.999999
EXPECTED RESULT : 57295779.814
ACTUAL RESULT   : 743910.253181
TEST RESULT   : FAIL

1.3   Test Results Summary

Table 2: Test Summary

Test Case ID	Status	Impact
TC1	PASS	-
TC2	PASS	-
TC3	FAIL	Minor
TC4	FAIL	Minor
TC5	PASS	-
TC6	PASS	-
TC7	FAIL	Minor
TC8	FAIL	Minor
TC9	PASS	-
TC10	PASS	-
TC11	FAIL	Major
TC12	FAIL	Major
TC13	PASS	-
TC14	FAIL	Major
TC15	PASS	-
TC16	PASS	-
TC17	FAIL	Major
TC18	FAIL	Major

1.4 Summary