



SOEN 6011 : SOFTWARE ENGINEERING PROCESSES
SUMMER 2021

SUPER CALCULATOR

PROBLEM - 2
Requirements
ISO/IEC/IEEE 29148 Standard

Authors

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<https://www.overleaf.com/project/610304de4e6b8d24f7c781b6>

PROBLEM 2 - F2: $\tan(x)$

SOEN 6011 - Summer 2021

Software Engineering Processes

Repository address : <https://github.com/Dakatsu/SOEN6011Calculator>

Rokeya Begum Keya

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Assumption:

The value of $\tan(x)$ function is real number. Moreover, the calculation of $\tan(x)$ function is done in radians.

Requirements:

[1][2]

The current section describes the requirements to implement the function $\tan(x)$.

Requirement Id : F2-R1

Overview	Input x into $\tan(x)$ function.
Version	1.0
Description	User should give integer (degree) value as input. The program will give the approximate integer value of $\tan(x)$.
Owner	Rokeya Begum Keya
Priority	High
Type	Functional
Difficulty	Medium
Verification Method	

Requirement Id : F2-R2

Overview	Input x into $\tan(x)$ function.
Version	1.0
Description	If User gives any value out of domain. The output will show error.
Owner	Rokeya Begum Keya
Priority	High
Type	Functional
Difficulty	Medium
Verification Method	

Requirement Id : F2-R3

Overview	Input x into $\tan(x)$ function.
Version	1.0
Description	If User gives any integer value which is out of range. The output will be undefined and will show error.
Owner	Rokeya Begum Keya
Priority	High
Type	Functional
Difficulty	Medium
Verification Method	

Requirement Id : F2-R4

Overview	Input x into $\tan(x)$ function.
Version	1.0
Description	For the input, for which $\cos(x) = 0$, then, the output will be undefined and will show "undefined".
Owner	Rokeya Begum Keya
Priority	High
Type	Functional
Difficulty	Medium
Verification Method	

Requirement Id : F2-R5

Overview	Input x into $\tan(x)$ function.
Version	1.0
Description	If the user gives an input of $\tan(90^\circ)$, then, the output will be "undefined".
Owner	Rokeya Begum Keya
Priority	High
Type	Functional
Difficulty	Medium
Verification Method	

Requirement Id : F2-R6

Overview	Availability
Version	1.0
Description	The system may provide the calculation to the user within four seconds.
Owner	Rokeya Begum Keya
Priority	High
Type	Functional
Difficulty	Medium
Verification Method	

PROBLEM 2 - F3: Hyperbolic Sine, $\sinh(x)$

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<https://github.com/Dakatsu/SOEN6011Calculator>

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PROBLEM 2 - F5

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Repository address : <https://github.com/Dakatsu/SOEN6011Calculator>

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Team please add your content here

PROBLEM 2 - F7 : x^y

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Repository address : <https://github.com/Dakatsu/SOEN6011Calculator>

Manimaran Palani

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Requirements and Assumptions

[1][2]

The current section describes the requirements and assumptions to implement the function x^y .

Explicit Assumption : The transcendental function x^y will be accurate and accepts input which comprises of rational and irrational numbers.

Requirement Id : F7-R1

Overview	X(0) to the power of Y(0)
Version	1.0
Description	If the user gives an input for X as Zero and input for Y as Zero. The function may return the 1 as output.
Owner	Manimaran Palani
Priority	High
Type	Functional
Difficulty	Medium
Verification Method	F7_TestCase_1

Requirement Id : F7-R2

Overview	X(0) to the power of Y(Real Number)
Version	1.0
Description	If the user gives an input for X as zero and input for Y as any Real Number. The function may return zero as output.
Owner	Manimaran Palani
Priority	High
Type	Functional
Difficulty	Medium
Verification Method	F7_TestCase_2

Requirement Id : F7-R3

Overview	X(Positive Number) to the power of Y(0)
Version	1.0
Description	If the user gives an input for X of any positive number and input for Y as Zero.The function may return 1 as the output.
Owner	Manimaran Palani
Priority	High
Type	Functional
Difficulty	Medium
Verification Method	F7_TestCase_3

Requirement Id : F7-R4

Overview	X(Negative Number) to the power of Y (0)
Version	1.0
Description	If the user gives an input for X of any negative number and input for Y as Zero.The function may return 1 as the output.
Owner	Manimaran Palani
Priority	High
Type	Functional
Difficulty	Medium
Verification Method	F7_TestCase_4

Requirement Id : F7-R5

Overview	X(Positive Number) to the power of Y(1)
Version	1.0
Description	If the user gives an input for X as any positive number and input for Y as 1. The function may return X as the output.
Owner	Manimaran Palani
Priority	High
Type	Functional
Difficulty	Medium
Verification Method	F7_TestCase_5

Requirement Id : F7-R6

Overview	X(Positive Number) to the power of Y(Positive Number)
Version	1.0
Description	If the user gives an input for X as any positive number and input for Y as positive number. The function may return positive number as the output.
Owner	Manimaran Palani
Priority	High
Type	Functional
Difficulty	Medium
Verification Method	F7_TestCase_6

Requirement Id : F7-R7

Overview	X(Negative Number) to the power of Y(Positive Even Number)
Version	1.0
Description	If the user gives an input for X as any Negative number and input for Y as positive Even number. The function may return positive number as the output.
Owner	Manimaran Palani
Priority	High
Type	Functional
Difficulty	Medium
Verification Method	F7_TestCase_6

Requirement Id : F7-R8

Overview	X(Negative Number) to the power of Y(Positive Odd Number)
Version	1.0
Description	If the user gives an input for X as any negative number and input for Y as positive odd number. The function may return negative number as the output.
Owner	Manimaran Palani
Priority	High
Type	Functional
Difficulty	Medium
Verification Method	F7_TestCase_6

Requirement Id : F7-R9

Overview	Availability
Version	1.0
Description	The system may provide the response with output to the user within finite time.
Owner	Manimaran Palani
Priority	High
Type	Non-Functional
Difficulty	Medium

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>