SOEN 6011 : SOFTWARE ENGINEERING PROCESSES

SUMMER 2021

SUPER CALCULATOR

PROBLEM - 2

Requirements

ISO/IEC/IEEE 29148 Standard

Authors

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PROBLEM 2 - F2: $tan(x)$

SOEN 6011 - Summer 2021 **Rokeya Begum Keya**
Software Engineering Processes **40183615**
Repository address : https://github.com/Dakatsu/SOEN6011Calculator

Requirements and Assumptions

[1][2]
The current section describes the requirements and assumptions to implement the function $tan(x)$.

Explicit Assumption: The value of $tan(x)$ function is real number. Moreover, output of the $tan(x)$ function is in radians. For a value to be accurate, it shall be correct up to a specific number of decimal places. This number of decimal places may be specified by the system or the user.

Requirement Id : F2-R1

Overview	Input x into $tan(x)$ function.
Version	1.0
Description	If User gives any non-integer value. The output will show error.
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 error.
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 $tan(90°)$, 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, $sinh(x)$

SOEN 6011 - Summer 2021 **Kyle Taylor Lange**
Software Engineering Processes **27627696**
https://www.overleaf.com/project/610304de4e6b8d24f7c781b6 Repository address :
https://github.com/Dakatsu/SOEN6011Calculator

PROBLEM 2 - F*

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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

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	

Requirement Id : F7-R2

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

Requirement Id : F7-R3

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

Requirement Id : F7-R4

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	

Requirement Id : F7-R5

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	

Requirement Id : F7-R6

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

Requirement Id : F7-R7

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

Requirement Id : F7-R8

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
Verification Method	

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`