SOEN6011 Project: Problem-2

Function: B(x,y)   **40197897-Pal Patel**

Functional Requirements for B(x,y):

Requirement 1

- **ID =** R1
- **Version =** 1.0
- **Difficulty =** Easy
- **Description =** 2 variables, x and y are required for the function to be performed.
- **Rationalle =** x and y

Requirement 2

- **ID =** R2
- **Version =** 1.0
- **Difficulty =** Easy
- **Description =** The variables x and y must be real positive numbers, meaning x,y ∈ R+ (Domain of the function)
- **Rationalle =** $x > 0$, $y > 0$, and x,y ∈ R+

Requirement 3

- **ID =** R3
- **Version =** 1.0
- **Difficulty =** Easy
- **Description =** The results after applying the function to x and y must also be real positive numbers. (Co-Domain of the function)
- **Rationalle =** B(x,y)>0

Requirement 4

- **ID** = R4
- **Version** = 1.0
- **Difficulty** = Easy
- **Description** = The range of positive real variables is to remain between 0 and 1 for the integral form of the function.
- **Rationalle** = $x, y \in (0, 1]$

Requirement 5

- **ID** = R5
- **Version** = 1.0
- **Difficulty** = Easy
- **Description** = The function must have no other inputs than x,y.
- **Rationalle** = x,y $\in$ R+

Requirement 6

- **ID** = R6
- **Version** = 1.0
- **Difficulty** = Easy
- **Description** = The input variables may or may not have distinct values
- **Rationalle** = x=y OR x $\neq$ y

Requirement 7

- **ID** = R7
- **Version** = 1.0
- **Difficulty** = Easy
- **Description** = The output of the factorial function must be a positive integer.
- **Rationalle** = Factorial input

2.2 Non-Functional Requirements

First Non-Functional Requirement

- **Identifier =** NFR1
- **Priority =** High
- **Description =** The calculator has to be connected to a power source (Battery/Cell).

Second Non-Functional Requirement

- **Identifier =** NFR2
- **Priority =** High
- **Description =** The display and buttons/icons of the calculator must be in good working conditions.

Assumptions for B(x,y):

1. The inputs to the function fall in the acceptable range, positive real numbers.

2. The outputs/results of the function fall in the acceptable range as well, positive real numbers

3. No other calculations are involved in finding B(x,y)

References

[1] ISO https://standards.ieee.org/ieee/29148/6937/: :text=29148