

Functional Requirements

Identifier - FR1

FR1 — The Beta Function can provide an output if it has an input from a domain comprising of positive Real Numbers only.

Identifier - FR2

FR2 — The Beta Function , can only provide an output if its parameters , X and Y are both positive numbers i.e. Real Number $X > 0$ and Real Number $Y > 0$.

Identifier - FR3

FR3 — To compute the value of the Beta Function , a subordinate function needs to be used to calculate the value of A raised to the power B. In other words we need to define a power function to calculate A^B .

Identifier - FR4

FR4 —To computer the value of the Beta Function for any Real number, we need to be able to compute the Definite Integral as defined in the mathematical realm of Calculus.

Functional Assumption

FA1 — To compute the value of the Beta Function , we can estimate the value of the Definite Integral using Numerical Methods.

NON FUNCTIONAL REQUIREMENTS

Identifier - NFR1

NFR1 — To accurately compute the value of Beta Function for larger input values of X and Y , we need the ability to store very large decimal values.

Identifier - NFR2

NFR2 — The method used to calculate the Beta Function , should be scalable for different input values and different Hardware Requirements.

Identifier - NFR3

FR3 — The method used to calculate the Beta Function , should be optimized for performance so that it efficiently calculates the integral for large input values of X and Y.