SOEN 6011 Problem 2 Anqi Wang Team K
F8 B(x, y)
Requirements with ID

1. User has input a character

Response: The system shall respond that the input type is invalid
Explanation: This Beta Function Calculator aims to calculate numbers, in the range of $(0, +\infty)$. So, the not number type input couldn't be calculated by this program. Also, this input assumption to put into Beta Function is not user's requirement, like the input value is a Char type character, then the result is not satisfying userability.
Priority: High
Type: Functional requirement
Version: 1.0

2. The input number is a negative infinite decimal number

Response: The system shall respond that the input number is not in the Beta Function's acceptable range
Explanation: This can be the constraints for this program. The assumption for this program is to calculate positive real numbers. Requirement engineers shall point out that this is not feasible for code implementation, as well as typing input values.

Priority: High
Type: Functional requirement
Version: 1.0

3. The input number is a complex number, also a real number

Response: The system shall respond that the system couldn't calculate complex number, only real number
Explanation: Working on real number is this program's requirement. User will be notified by the program that his input is not a real number.
Priority: High
Type: Functional requirement
Version: 1.0

4. User has input a very large number that has out of the machine memory

Response: The system shall respond that this system can not support for this calculation
Explanation: Out of machine memory may decrease the system's reliability. System could not process in this condition. This will increase the cost of this program.
Priority: Medium
Type: Functional requirement
Version: 1.0

5. User has input a big number that the system couldn’t handle

Response: The System shall overflow
Explanation: System’s validity is not reached because system fails to execute the input value. So, this program throws exception to handle this problem, otherwise this shall be the risk for this program while executing.
Priority: Medium
Type: Functional requirement
Version: 1.0

6. User has modified the input again after his first input

Response: The System shall calculate based on the user's first input
Explanation: This is a Java calculation program. It is not able to implement that multiple times re-enter the same variable after the first input for this variable has been confirmed. This leads to the anti feasibility implementation issue.
Priority: Low
Type: Functional requirement
Version: 1.0

Reference

ISO/IEC/IEEE 29148:2018. Systems and Software Engineering - Life Cycle Processes - Requirements Engineering. 2019. ISO, IEC, IEEE. (P.9-P.16)
Olver, F. W., Lozier, D. W., Boisvert, R. F., Clark, C. W. (Eds.). (2010). NIST handbook of mathematical functions hardback and CD-ROM. Cambridge university press.