

Floating-Point Expansions

Project description

The project involves implementing and optimizing basic operations for extended precision using floating-point expansion [1].

Operations to implement:

- Addition (Algorithm 4 in [1])
- Multiplication (Algorithm 5 in [1])
- Multiplication for ulp-nonoverlapping expansions (Algorithm 1 in [2])

It is possible to extend the project by implementing and optimizing other operations, e.g., division, square root, etc.

References:

[1] <https://ieeexplore.ieee.org/document/7118139>

[2] <https://ieeexplore.ieee.org/document/7563270>