

Project proposal (Advanced Computer Architectures)

Efficient Non-Standard Numeric System C++ Representations: Continued Fractions

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Size of the project: 1 student

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Abstract

Exploit the finite continued fraction number system to efficiently implement a numeric data type in C++.

Pre-requirements

- Intermediate knowledge of C++11 language and idioms
- Basic Linux skills

Involved Technologies and Frameworks

- C++11

Detailed description

Implement a C++ library with operators to make its use convenient. You can refer to here¹ as an example of C++ number representation library.

Use finite continued fractions² to represent numbers.

The goal of this project is to implement and test the efficiency of a numeric data type based on continued fractions.

¹ <https://github.com/skeru/fixpoint>

² <https://crypto.stanford.edu/pbc/notes/contfrac/>