

## CoCoALib - Feature #127

### Convert DUPFF code to C++

05 Apr 2012 14:27 - John Abbott

<b>Status:</b>	In Progress	<b>Start date:</b>	05 Apr 2012
<b>Priority:</b>	Normal	<b>Due date:</b>	
<b>Assignee:</b>	John Abbott	<b>% Done:</b>	50%
<b>Category:</b>	New Function	<b>Estimated time:</b>	25.00 hours
<b>Target version:</b>	CoCoALib-1.0	<b>Spent time:</b>	22.20 hours

#### Description

Convert the old factorizer C code "DUPFF" into C++.

#### Related issues:

Related to CoCoALib - Feature #126: New datastructures directory	<b>New</b>	<b>05 Apr 2012</b>
Related to CoCoALib - Slug #129: Better GCD	<b>New</b>	<b>15 Apr 2012</b>
Related to CoCoALib - Bug #135: Revise interface to SmallFpImpl & friends	<b>Closed</b>	<b>20 Apr 2012</b>
Related to CoCoALib - Slug #952: GCD very slow	<b>Closed</b>	<b>25 Oct 2016</b>
Related to CoCoALib - Feature #257: Transcribe C4 code for GCD in QQ[x]	<b>New</b>	<b>09 Oct 2012</b>
Related to CoCoALib - Feature #718: Insert calls to CheckForInterrupt	<b>Closed</b>	<b>21 May 2015</b>

#### History

##### #1 - 19 Apr 2012 12:10 - John Abbott

- Estimated time set to 25.00 h

##### #2 - 22 Nov 2012 15:00 - John Abbott

- Status changed from New to In Progress

- % Done changed from 0 to 20

JAA has written a first prototype.

It works, but is 10% slower than the old C code for multiplication - why???

##### #3 - 20 Mar 2013 23:22 - John Abbott

- Category set to New Function

- Assignee set to John Abbott

- Target version set to CoCoALib-0.99534 Seoul14

- % Done changed from 20 to 50

I've rewritten most of the DUPFF code in C++ (i.e. using DUPFp).

Still need to do:

1. CVS check-in (**done 2013-03-25**)
2. complete impl of power
3. correctness testing; write test suite
4. speed testing against old DUPFF code
5. write documentation (from scratch)
6. implement factorization (both Berlekamp and Cantor-Zassenhaus).

**#4 - 29 Oct 2013 15:16 - Anna Maria Bigatti**

- Target version changed from CoCoALib-0.99534 Seoul14 to CoCoALib-0.99532

**#5 - 02 Apr 2014 16:58 - John Abbott**

- Target version changed from CoCoALib-0.99532 to CoCoALib-0.99533 Easter14

**#6 - 04 Apr 2014 17:14 - John Abbott**

- Target version changed from CoCoALib-0.99533 Easter14 to CoCoALib-0.99534 Seoul14

**#7 - 10 Jul 2014 14:18 - John Abbott**

- Target version changed from CoCoALib-0.99534 Seoul14 to CoCoALib-1.0

**#8 - 25 Oct 2016 23:04 - John Abbott**

- Related to Slug #952: GCD very slow added

**#9 - 24 Nov 2016 13:23 - John Abbott**

- Related to Feature #257: Transcribe C4 code for GCD in QQ[x] added

**#10 - 28 Sep 2022 15:04 - John Abbott**

Upon rewriting, make sure that calls to CheckForInterrupt are inserted. (see comment 11 of issue [#718](#))

**#11 - 28 Sep 2022 15:04 - John Abbott**

- Related to Feature #718: Insert calls to CheckForInterrupt added