

## CoCoALib - Feature #1667

### GBasis over ZZ: port to CoCoALib

16 Feb 2022 20:00 - John Abbott

<b>Status:</b>	In Progress	<b>Start date:</b>	16 Feb 2022
<b>Priority:</b>	Urgent	<b>Due date:</b>	
<b>Assignee:</b>		<b>% Done:</b>	10%
<b>Category:</b>	Improving	<b>Estimated time:</b>	0.00 hour
<b>Target version:</b>	CoCoALib-0.99880	<b>Spent time:</b>	4.10 hours
<b>Description</b>			
Port the GBasis over ZZ code (prototype in a CoCoA-5 package) into C++.			
Also make several algorithmic improvements. Maybe Florian can indicate some useful texts (at least one by Christian Eder).			
<b>Related issues:</b>			
Related to CoCoA-5 - Feature #1272: Groebner Bases over ZZ		<b>Closed</b>	<b>18 Apr 2019</b>
Related to CoCoA-5 - Support #242: CoCoA-5 Projects for students (e.g. credit...		<b>In Progress</b>	<b>28 Sep 2012</b>
Related to CoCoALib - Feature #1001: CoCoALib: ideas for student projects		<b>In Progress</b>	<b>19 Jan 2017</b>

#### History

##### #1 - 16 Feb 2022 20:00 - John Abbott

- Related to Feature #1272: Groebner Bases over ZZ added

##### #2 - 16 Feb 2022 20:32 - John Abbott

- Related to Support #242: CoCoA-5 Projects for students (e.g. crediti F and tesi) added

##### #3 - 20 Apr 2022 17:11 - John Abbott

- Related to Feature #1001: CoCoALib: ideas for student projects added

##### #4 - 26 Sep 2022 12:05 - John Abbott

- Status changed from New to In Progress

- % Done changed from 0 to 10

A student (Khalil Loukhnati) worked on this last semester. He has produced working code.  
It still needs considerable polishing.

Performance is disappointing (but the profiler reported that 50% CPU time was spent doing downcasting!!)

##### #5 - 07 Oct 2022 11:34 - Anna Maria Bigatti

This student translated the code in CoCoA prototype-GBZZ.cpkg5 into cocoalib.  
And also added some changes found in a paper by Christian Eder (arxiv:1811.05736 **warning** contains several typos)

Elisa and Michele: want to run some tests and contribute to make it usable?

John Abbott wrote:

A student (Khalil Loukhnati) worked on this last semester. He has produced working code.  
It still needs considerable polishing.

Performance is disappointing (but the profiler reported that 50% CPU time was spent doing downcasting!!)

**#6 - 16 Feb 2024 09:39 - John Abbott**

- Target version changed from CoCoALib-0.99850 to CoCoALib-0.99880

**#7 - 26 Mar 2024 17:19 - John Abbott**

- Priority changed from Normal to Urgent

Michele Toriell is asking for this. There was C++ from when i was in Passau: dig it out, and blow the dust off.