

CoCoALib - Slug #1769

FixedDivisor is sometimes surprisingly slow

20 Nov 2023 22:12 - John Abbott

Status:	Closed	Start date:	20 Nov 2023
Priority:	Normal	Due date:	
Assignee:	John Abbott	% Done:	100%
Category:	Improving	Estimated time:	2.22 hours
Target version:	CoCoALib-0.99850	Spent time:	2.25 hours
<b>Description</b> FixedDivisor can sometimes be unexpectedly slow.  <pre>f := product([c[1]*x-c[2]   c in (1..50)&gt;&lt;(1..50) and gcd(c) = 1]); FixedDivisor(f); -- a bit slow; much worse with 100 instead of 50</pre> Maybe make the evaluation code in SparsePolyOps-cyclotomic.C publicly available & use it?			
<b>Related issues:</b> Related to CoCoALib - Feature #1770: Evaluate polynomial function/class <div>Closed21 Nov 2023</div>			

History

#1 - 21 Nov 2023 23:15 - John Abbott

- Related to Feature #1770: Evaluate polynomial function/class added

#2 - 27 Nov 2023 19:41 - John Abbott

- Status changed from New to Resolved
- Assignee set to John Abbott
- % Done changed from 0 to 60

I have changed the code to use the new prototype evaluation code (see issue #1770), and it is now usefully faster :-)  
[for the example in the description: previously about 15s; now about 1s]  
This is probably good enough: most of the time is spent evaluating the polynomial...  
Not sure if we can be cleverer about which points to evaluate at? [ i.e. just use a subset of the points we actually use]

#3 - 01 Dec 2023 21:29 - John Abbott

- Status changed from Resolved to Feedback
- % Done changed from 60 to 90

I regard this as fixed: the remaining work is in issue #1770

#4 - 22 Dec 2023 20:57 - John Abbott

- Status changed from Feedback to Closed
- % Done changed from 90 to 100
- Estimated time set to 2.22 h

It is now good enough to be closed.