

CoCoALib - Slug #1369

RandomUnimodularMat is slow with many iters

25 Nov 2019 13:45 - John Abbott

Status:	In Progress	Start date:	25 Nov 2019
Priority:	Low	Due date:	
Assignee:		% Done:	10%
Category:	Improving	Estimated time:	0.00 hour
Target version:	CoCoALib-1.0	Spent time:	0.75 hour
Description			
RandomUnimodularMat becomes too slow when number of iters is high.			
Try a divide-and-conquer approach.			
Related issues:			
Related to CoCoALib - Feature #955: RandomUnimodularMat - random unimodular m...		Closed	27 Oct 2016

History

#1 - 25 Nov 2019 13:46 - John Abbott

- Related to Feature #955: RandomUnimodularMat - random unimodular matrix (of integers) added

#2 - 25 Nov 2019 13:48 - John Abbott

RandomUnimodularMat(QQ,4,1000000) takes too long. It is faster to do product([RandomUnimodularMat(QQ,4,10000) | j in 1..100])

Divide-and-conquer makes sense; not sure when it should switch over to simple linear approach.

#3 - 25 Nov 2019 20:33 - John Abbott

- Status changed from New to In Progress

- % Done changed from 0 to 10

First impl is quite disappointing; the overhead/cost of matrix mult is embarrassingly high.

Should do recursion based on the internal vector< vector<BigInt> > structure then convert to matrix only at the end.

Not tonight, Josephine!

#4 - 09 Jan 2020 12:19 - John Abbott

- Target version changed from CoCoALib-0.99700 to CoCoALib-1.0