CoCoALib - Bug #821

IsTermOrdering

25 Nov 2015 16:43 - John Abbott

Status:	Closed		**Start date:**	25 Nov 2015
Priority:	Normal		**Due date:**	
Assignee:	John Abbott		**% Done:**	100%
Category:	Tidying		**Estimated time:**	0.00 hour
Target version:	CoCoALib-0.99540 Feb 2016		**Spent time:**	0.85 hour

Description

MatrixForOrdering offers a fn called IsTermOrdering.
The doc says its tests whether the matrix defines a term ordering.
The code simply checks that the first non-zero element in each column is positive; it does not check that the matrix has rank equal to the number of columns. It really tests whether the matrix could be completed into another one which defines a term ordering.

Which is right? The doc or the code?
Decide, and fix which ever needs fixing.

History

#1 - 25 Nov 2015 16:46 - John Abbott

These matrices for ordering really seem to be a minefield :-(

Who uses NewIntegerOrdMat?

Unfortunately I need to sort this stuff out before I can check in :-(

#2 - 26 Nov 2015 14:02 - John Abbott

- Status changed from New to In Progress

- % Done changed from 0 to 10

Following the principle of "no nasty surprises", I think that IsTermOrdering should do a complete check (incl. correct rank).

If at some point we need a faster version which skips the rank check then that can be done either by a function with a different name, or by this function with an extra arg SkipRankCheck.

Maybe I'll check to see who calls it, to see whether the faster version is already needed.

#3 - 30 Nov 2015 11:20 - John Abbott

- Assignee set to John Abbott

Does the 0x0 matrix define a term-ordering?
Do we want to allow users to make a term-ordering on 0 indets?

JAA thinks it should probably be an error -- is there any circumstance where it could be useful to have a term-ordering on 0 indets?

NOTE the PPOrdCtor placeholders call NewLexOrdering etc., and these all throw if the number of indets is not strictly positive.

#4 - 30 Nov 2015 11:40 - Anna Maria Bigatti

John Abbott wrote:

> Does the 0x0 matrix define a term-ordering?
> Do we want to allow users to make a term-ordering on 0 indets?
>
> JAA thinks it should probably be an error -- is there any circumstance where it could be useful to have a term-ordering on 0 indets?
>
> **NOTE** the PPOrdCtor placeholders call NewLexOrdering etc., and these all throw if the number of indets is not strictly positive.

Error! error! (we give error also for PolyRing with no indets)

#5 - 21 Mar 2016 14:33 - John Abbott

Have we finished this issue? If I recall well, we made some progress, but I no longer recall whether we actually finished.

If finished, we should close. Otherwise we must change the Target Version (to which?)

#6 - 24 Mar 2016 12:02 - Anna Maria Bigatti

- Status changed from In Progress to Closed

- % Done changed from 10 to 100