CoCoALib - Bug #1331

adj: for matrices 7x7 and bigger

08 Oct 2019 15:24 - John Abbott

Status:	Closed	Start date:	08 Oct 2019	
Priority:	Normal	Due date:		
Assignee:	John Abbott	% Done:	100%	
Category:	Maths Bugs	Estimated time:	1.17 hour	
Target version:	CoCoALib-0.99800	Spent time:	1.15 hour	
Description				
adj (previously adjoint) gives a misleading and unnecessary error mesg if given a square matrix of dimension at least 7 over ZZ/(n) where n is not prime.				
It should not give error because the adjoint exists, and can be computed.				
Related issues:				
Related to CoCoALib - Bug #15: Adjoint of a non-invertible matrix			Closed	28 Oct 2011

History

#1 - 08 Oct 2019 15:26 - John Abbott

- Status changed from New to In Progress

- % Done changed from 0 to 10

Here is a simple failing case:

```
ZZ25 ::= ZZ/(25);
adj(IdentityMat(ZZ25,6)); --> this works
adj(IdentityMat(ZZ25,7)); --> error ring is not SparsePolyRing!
```

#2 - 08 Oct 2019 15:26 - John Abbott

- Related to Bug #15: Adjoint of a non-invertible matrix added

#3 - 25 Sep 2020 14:35 - John Abbott

- Status changed from In Progress to Resolved
- % Done changed from 10 to 80

There were two problems:

- (A) the dispatch function ConstMatrixViewBase::myDet in matrix.C was rather crude
- (B) the impl of DetDirect required needlessly that the ring be a polyring (now fixed).

I have tried to improve myDet().

#4 - 25 Sep 2020 14:52 - John Abbott

- Assignee set to John Abbott

Now I have split DetDirect into two fns: one generic and one for sparsepolyrings (where I can use geobuckets)

#5 - 25 Sep 2020 14:58 - John Abbott

I have added a test to test-bug1.C

#6 - 28 Oct 2020 23:17 - John Abbott

- Status changed from Resolved to Closed
- % Done changed from 80 to 100
- Estimated time set to 1.17 h