

CoCoA-5 - Feature #384

IsZero for matrix

05 Jul 2013 15:04 - John Abbott

Status:	Closed	Start date:	05 Jul 2013
Priority:	Normal	Due date:	
Assignee:	Anna Maria Bigatti	% Done:	100%
Category:	Incomplete function	Estimated time:	2.50 hours
Target version:	CoCoA-5.1.0 Easter14	Spent time:	3.50 hours
Description			
The built-in fn IsZero works for many types (INT, RAT, RINGELEM, MODULEELEM and IDEAL). Should it work for matrices (type MAT) too?			
However I do not think it should be applicable to LIST.			
Related issues:			
Related to CoCoA-5 - Design #525: BuiltInFunctions: evalArgAsT1OrT2, evalArgA...		Closed	08 Apr 2014

History

#1 - 02 Apr 2014 09:49 - Anna Maria Bigatti

- Category set to *Incomplete function*
- Target version set to *CoCoA-5.1.0 Easter14*

I think we should have **IsZero** for **MAT**

#2 - 13 Apr 2014 21:05 - Anna Maria Bigatti

- Status changed from *New* to *In Progress*
- % Done changed from *0* to *10*

I tried implementing it in a clever way but got stuck.
(clever = ZeroImpl gives true, IdentityImpl gives false, ...)

But I had a brilliant(?) idea: should we just implement IsZero as return $M = \text{ZeroMat}(R, NR, NC)$ and let the equality test to be clever? (I think it is clever)

#3 - 14 Apr 2014 08:42 - Anna Maria Bigatti

- Assignee set to *Anna Maria Bigatti*
- % Done changed from *10* to *50*
- Estimated time set to *2.50 h*

Implemented as described above.
Seems to work (added test `IsZero(ZeroMat(R, 12345,67890))` and is fast).
But where should the implementation go? **matrix.C** or **MatrixViews.C**?
Now the prototype is in **matrix.H** and the implementation in **MatrixViews.C**...

#4 - 14 Apr 2014 08:59 - Anna Maria Bigatti

Added to cocoa-5
I had to add `evalArgAsT1orT2orT3orT4orT5orT6orT7` in **Interpreter.H**.

#5 - 14 Apr 2014 10:39 - John Abbott

JAA suggests putting it in **MatrixOperations**

#6 - 14 Apr 2014 10:56 - Anna Maria Bigatti

John Abbott wrote:

JAA suggests putting it in **MatrixOperations**

OK. Should we also move **IsZeroRow/Col?**

#7 - 14 Apr 2014 16:32 - Anna Maria Bigatti

- % Done changed from 50 to 80

JAA suggests putting it in **MatrixOperations**

(after talking about it on the phone) moved all **Is..** functions from matrix.C to MatrixOperation.

#8 - 17 Apr 2014 18:57 - John Abbott

- Status changed from *In Progress* to *Feedback*

- % Done changed from 80 to 90

#9 - 07 May 2014 14:01 - John Abbott

- Status changed from *Feedback* to *Closed*

- % Done changed from 90 to 100

Implemented, documented, tested.

Closing..