

## CoCoA-5 - Feature #384

### IsZero for matrix

05 Jul 2013 15:04 - John Abbott

<b>Status:</b>	Closed	<b>Start date:</b>	05 Jul 2013
<b>Priority:</b>	Normal	<b>Due date:</b>	
<b>Assignee:</b>	Anna Maria Bigatti	<b>% Done:</b>	100%
<b>Category:</b>	Incomplete function	<b>Estimated time:</b>	2.50 hours
<b>Target version:</b>	CoCoA-5.1.0 Easter14	<b>Spent time:</b>	3.50 hours
<b>Description</b> The built-in fn <b>IsZero</b> 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.			
<b>Related issues:</b> Related to CoCoA-5 - Design #525: BuiltInFunctions: evalArgAsT1OrT2, evalArgA... <b>Closed</b> <b>08 Apr 2014</b>			

#### 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..