

CoCoA-5 - Design #1493

Automatic ring mapping in assignment?

28 Sep 2020 16:40 - John Abbott

Status:	Closed	Start date:	28 Sep 2020
Priority:	Normal	Due date:	
Assignee:	John Abbott	% Done:	100%
Category:	enhancing/improving	Estimated time:	0.00 hour
Target version:	CoCoA-5.4.0	Spent time:	1.50 hour
Description We have partly implemented automatic conversion of ring elements (<i>e.g.</i> in multiplication). Should it also work for assignment? Here is a specific example: <pre>M := mat([[1,x],[0,1]]); // matrix over R M[1,1] := LC(x); // RHS is in CoeffRing(R) -- currently gives MixedRings ERROR</pre>			
Related issues: Related to CoCoA-5 - Feature #7: Automatic mapping between (some) rings Resolved 20 Oct 2011 Related to CoCoALib - Feature #645: Automatic mapping of RingElem: user selec... Rejected 04 Nov 2014			

History

#1 - 28 Sep 2020 16:40 - John Abbott

- Related to Feature #7: Automatic mapping between (some) rings added

#2 - 30 Sep 2020 17:29 - John Abbott

- Description updated

My "gut feeling" is that it should work... I expect it to work (perhaps because the destination ring is well defined?)

Is there a situation where one could get unexpected behaviour?

#3 - 02 Oct 2020 07:36 - Anna Maria Bigatti

John Abbott wrote:

My "gut feeling" is that it should work... I expect it to work (perhaps because the destination ring is well defined?)

I agree

Is there a situation where one could get unexpected behaviour?

I cannot think of an unexpected behaviour, but just a remark:
In CoCoALib (not in CoCoA5) the assignment to a RINGELEM changes the RING accordingly to the rhs. Here it looks like it goes with the lhs. HOWEVER, in CoCoALib the function for **M[1,1] := ..** is **SetEntry(M,1,1,..)** and not an assignment.
So both CoCoA5 and CoCoALib are self-consistent.

#4 - 06 Oct 2020 15:53 - John Abbott

- *Status changed from New to Resolved*
- *Assignee set to John Abbott*
- *% Done changed from 0 to 70*

I have changed the impl of mySetEntry so that it tries to auto map the ring elem. Some *ad hoc* tests pass.

I have also changed the CoCoA-5 ctor for a matrix so that it tries to map all elems of the list of lists (list of rows) into the ring with largest RingID. Again an *ad hoc* test passed.
Not yet checked in.

Do we need to change doc for this?

#5 - 27 Oct 2020 18:40 - John Abbott

- *Status changed from Resolved to Feedback*
- *% Done changed from 70 to 90*

I have revised the manual entry for matrix. I did note that in the examples mat is used rather than matrix -- is this right?

#6 - 02 Apr 2021 08:54 - Anna Maria Bigatti

- *Status changed from Feedback to Closed*
- *% Done changed from 90 to 100*

John Abbott wrote:

I have revised the manual entry for matrix. I did note that in the examples mat is used rather than matrix -- is this right?

I admit, I always write mat and I like it.

This assignment works fine on my computer and I close this issue.

#7 - 16 Feb 2024 17:33 - Anna Maria Bigatti

- *Related to Feature #645: Automatic mapping of RingElem: user selectable at run-time (GlobalManager?) added*