

CoCoALib - Bug #1565

IsInRadical: gives "weird" error

19 Jan 2021 13:25 - John Abbott

|  |                  |                        |             |
|--|------------------|------------------------|-------------|
| <b>Status:</b>   | Closed           | <b>Start date:</b>     | 19 Jan 2021 |
| <b>Priority:</b>   | Normal           | <b>Due date:</b>       |             |
| <b>Assignee:</b>   | John Abbott      | <b>% Done:</b>         | 100%        |
| <b>Category:</b>   | Maths Bugs       | <b>Estimated time:</b> | 2.51 hours  |
| <b>Target version:</b>   | CoCoALib-0.99800 | <b>Spent time:</b>     | 2.50 hours  |
| <b>Description</b><br>Specific example:<br><br><pre>/**/ I := ideal(x^2,x-x);<br/>/**/ IsInRadical(x,I);<br/>--&gt; ERROR: Value must be non-zero<br/>--&gt; [CoCoALib] SqFreeFactor</pre><br>Probably caused by zero generator. |                  |                        |             |
| <b>Related issues:</b><br>Related to CoCoALib - Slug #1569: IsInRadical too slow (test-RadicalMembership)<br>Related to CoCoA-5 - Bug #1610: IsInRadical: some more little bugs  |                  |                        |             |
|  |                  | Closed                 | 22 Jan 2021 |
|  |                  | Closed                 | 27 Sep 2021 |

History

#1 - 19 Jan 2021 13:27 - John Abbott

Also get:

```
/**/ I := ideal(x-x);  
/**/ IsInRadical(x,I);  
--> ERROR: Value must be non-zero  
--> [CoCoALib] SqFreeFactor
```

Not sure we want to change this: I was just a bit surprised that the int was not automaically promoted to RINGELEM

```
/**/ IsInRadical(0,J);  
--> ERROR: Expecting type RINGELEM or IDEAL, but found type INT  
--> IsInRadical(0,J);
```

**#2 - 19 Jan 2021 14:03 - John Abbott**

- *Status changed from New to In Progress*
- *% Done changed from 0 to 50*

I have modified RadicalHelpers in SparsePolyOps-RadicalMembership.C

Seems Ok now. Still testing.

**#3 - 22 Jan 2021 15:05 - John Abbott**

- *Status changed from In Progress to Feedback*
- *Assignee set to John Abbott*
- *% Done changed from 50 to 90*

I have modified the code so that it avoid recomputing the "radical helpers".  
All tests pass. Will clean and then check in.

**#4 - 22 Jan 2021 15:09 - John Abbott**

- *Related to Slug #1569: IsInRadical too slow (test-RadicalMembership) added*

**#5 - 16 Sep 2021 12:49 - John Abbott**

- *Status changed from Feedback to Closed*
- *% Done changed from 90 to 100*
- *Estimated time set to 2.51 h*

Deleted the comment out cruft. There is already a test in ex-bugs.C

Closing!

**#6 - 27 Sep 2021 09:52 - Anna Maria Bigatti**

- *Related to Bug #1610: IsInRadical: some more little bugs added*