

## 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>			
Specific example:			
<pre>/**/ I := ideal(x^2,x-x); /**/ IsInRadical(x,I); --&gt; ERROR: Value must be non-zero --&gt; [CoCoALib] SqFreeFactor</pre>			
Probably caused by zero generator.			
<b>Related issues:</b>			
Related to CoCoALib - Slug #1569: IsInRadical too slow (test-RadicalMembership)		<b>Closed</b>	<b>22 Jan 2021</b>
Related to CoCoA-5 - Bug #1610: IsInRadical: some more little bugs		<b>Closed</b>	<b>27 Sep 2021</b>

### 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 automatically 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