CoCoALib - Design #1617

UnivariateIndetIndex: exact semantics

13 Oct 2021 20:14 - John Abbott

Status:	Closed	**Start date:**	13 Oct 2021
Priority:	Normal	**Due date:**	
Assignee:	John Abbott	**% Done:**	100%
Category:	Tidying	**Estimated time:**	1.66 hour
Target version:	CoCoALib-0.99800	**Spent time:**	1.65 hour

Description
What are the exact semantics of **UnivariateIndetIndex**?
In particular what should the function return if passed a constant polynomial (*i.e.* 0 or deg=0) in a polyring with more than 1 indet?
Currently it returns the index 0; but perhaps an error is more appropriate (since the answer is not uniquely defined).

Related issues:		
Related to CoCoA-5 - Feature #1616: UnivariateIndetIndex: remove cocoa-5 impl...	**Closed**	**13 Oct 2021**

History

#1 - 13 Oct 2021 20:14 - John Abbott

- Related to Feature #1616: UnivariateIndetIndex: remove cocoa-5 implementation and use CoCoALib's added

#2 - 13 Oct 2021 20:34 - John Abbott

What about the case of a constant poly in a polyring with just 1 indet?
Error or not? (assuming we opt for an error if there are several indets)

Hmmm

#3 - 14 Oct 2021 15:50 - John Abbott

Mmm, should it be an error to call UnivariateIndetIndex if the polyring has just 1 indet?
After all, the answer is obvious in this case.

#4 - 20 Oct 2021 15:51 - John Abbott

- Status changed from New to In Progress

- % Done changed from 0 to 10

I have just modified the imple of UnivariateIndetIndex so that it produces an error if the input is constant or if the polyring has just 1 indet.
Some tests fail. I'll investigate (later).

#5 - 20 Oct 2021 15:52 - John Abbott

If we do change the semantics, **don't forget to change the doc as well!** And perhaps also change the tests!

#6 - 20 Oct 2021 20:40 - John Abbott

I tried throwing an exception if the arg was a constant or if the polyring had just 1 indet, but several tests failed.
I checked just test-RingFq1, and the problem was that there was just a single indet.
Making the caller handle specially the case of a single indet would make the caller's code rather messier.

If I allow polyrings with just 1 indet, but throw when the arg is a constant poly then all tests pass!

#7 - 20 Oct 2021 21:48 - John Abbott

- Status changed from In Progress to Resolved

- Assignee set to John Abbott

- % Done changed from 10 to 80

I have checked in the version which rejects constant but accepts polyrings with 1 indet.

#8 - 10 Nov 2021 20:02 - John Abbott

- Status changed from Resolved to Feedback

- % Done changed from 80 to 90

#9 - 10 Nov 2021 20:08 - John Abbott

I have updated the documentation to the current behaviour.

#10 - 12 Nov 2021 11:44 - John Abbott

- Status changed from Feedback to Closed

- % Done changed from 90 to 100

- Estimated time set to 1.66 h