

CoCoALib - Feature #1619

Make saturate available in CoCoALib

15 Oct 2021 14:22 - Florian Walsh

Status:	Closed	Start date:	15 Oct 2021
Priority:	Normal	Due date:	
Assignee:	Anna Maria Bigatti	% Done:	100%
Category:	New Function	Estimated time:	0.00 hour
Target version:	CoCoALib-0.99850	Spent time:	1.40 hour
Description			
It seems like this is already implemented. There is a function <code>mySaturate</code> in <code>AlgebraicCore/SparsePolyOps-ideal.C</code> . It is not documented and I am not sure if it is intended to be used directly by the user.			
Related issues:			
Related to CoCoALib - Design #1326: Modify function <code>myElim</code> so that it returns...		Closed	03 Oct 2019
Related to CoCoALib - Slug #967: Improve <code>saturate</code>		Resolved	10 Nov 2016
Related to CoCoALib - Support #942: Which names to use? <code>Intersection/saturat...</code>		In Progress	10 Oct 2016

History

#1 - 20 Jan 2022 11:51 - Florian Walsh

It seems like I need to call `MakeUnique(I)->mySaturate(J)` to compute the saturation of `I` wrt. to `J`.

#2 - 20 Jan 2022 15:56 - John Abbott

- *Category set to New Function*
- *Target version set to CoCoALib-0.99850*
- *% Done changed from 0 to 10*

To my eye that syntax looks quite ugly.
Why can I not just write `saturate(I,J)`?
What does `MakeUnique` do? And why do I need it here?

#3 - 21 Jan 2022 12:22 - Anna Maria Bigatti

- *Assignee set to Anna Maria Bigatti*
- *% Done changed from 10 to 20*

In `ideal.C` we have `intersect` and `colon`.
We should add `saturate` in the same way.

(similarly, we should have a better interface for `elim` as well)

#4 - 21 Jan 2022 12:24 - John Abbott

- *Related to Design #1326: Modify function `myElim` so that it returns `ideal`? (not quite) added*

#5 - 13 Mar 2024 19:23 - John Abbott

- *Related to Slug #967: Improve `saturate` added*

#6 - 16 Mar 2024 21:47 - John Abbott

- *Status changed from New to In Progress*

- % Done changed from 20 to 60

I have added saturate to the relevant header file. And also a test for [#1790](#).
Added some doc. Do we need tests? Can we close?

#7 - 18 Mar 2024 09:23 - John Abbott

Maybe different types:

- monomial
- principal
- univariate
- general

#8 - 21 Mar 2024 17:54 - Anna Maria Bigatti

John Abbott wrote:

Maybe different types:

- monomial
- principal
- univariate
- general

also homog

#9 - 21 Mar 2024 17:55 - Anna Maria Bigatti

- % Done changed from 60 to 80

added CoCoA-5 test-saturate.cocoa5

#10 - 21 Mar 2024 17:57 - Anna Maria Bigatti

- Related to Support #942: Which names to use? Intersection/saturation vs intersect/saturate added

#11 - 22 Mar 2024 10:14 - Anna Maria Bigatti

- Status changed from In Progress to Closed

- % Done changed from 80 to 100