CoCoA-5 - Feature #1439

New function: LinearForm

07 Mar 2020 09:14 - Anna Maria Bigatti

Status:	Closed	**Start date:**	07 Mar 2020
Priority:	Normal	**Due date:**	
Assignee:	Anna Maria Bigatti	**% Done:**	100%
Category:	CoCoA-5 function: new	**Estimated time:**	5.20 hours
Target version:	CoCoA-5.3.0	**Spent time:**	5.10 hours

Description

Add function which returns the sum of the summends of degree 1.

Related issues:

Related to CoCoALib - Feature #1022: New "LF" function which is based on StdDeg	**New**	**06 Mar 2017**

History

#1 - 07 Mar 2020 09:17 - Anna Maria Bigatti

Done (in NotBuiltin.cpkg5)

Funny cases:
if f = 0 returns 0
if GradingDim<>1 returns error
use weights: es:

```
/**/ OrdM := matrix([[2,3,1],[0,0,-1],[0,-1,0]]);
/**/ P := NewPolyRing(QQ, "a,b,c", OrdM, 1); -- 3 indeterminates
/**/ use P;
/**/ LinearForm(a+b+c);
c
```

#2 - 07 Mar 2020 09:21 - Anna Maria Bigatti

- Status changed from New to Resolved

- % Done changed from 0 to 80

documentation done
(but checkin later -- flat battery)

#3 - 07 Mar 2020 11:20 - Anna Maria Bigatti

- Status changed from Resolved to Feedback

- % Done changed from 80 to 90

- Estimated time set to 2.51 h

updated RelNotes

Checked in everything

#4 - 09 Mar 2020 15:36 - John Abbott

Do we have a function which computes a list of homog compts?

#5 - 09 Mar 2020 16:52 - Anna Maria Bigatti

John Abbott wrote:

> Do we have a function which computes a list of homog compts?

no, we explicitely decided not to, for its intrinsic use of memory.
We implemented LF and to promoted iterating over.

#6 - 09 Mar 2020 16:53 - Anna Maria Bigatti

- Related to Feature #1022: New "LF" function which is based on StdDeg added

#7 - 11 Mar 2020 13:47 - John Abbott

I now have a prototype of **HomogForm(f,d)** in C++.
It seems to be about 30 times faster than LinearForm in CoCoA-5.
Should I put it into CoCoALib? Or shall I delay it until the next release?

#8 - 11 Mar 2020 15:27 - Anna Maria Bigatti

John Abbott wrote:

> I now have a prototype of **HomogForm(f,d)** in C++.
> It seems to be about 30 times faster than LinearForm in CoCoA-5.
> Should I put it into CoCoALib? Or shall I delay it until the next release?

Put it in CoCoALib: we still have problems with the linux release, and I haven't made the CoCoALib release official yet (nor cocoa for M$).

#9 - 11 Mar 2020 16:20 - John Abbott

What should the fn name be? **HomogForm** or **HomogCompt**?

#10 - 11 Mar 2020 18:14 - John Abbott

- Estimated time changed from 2.51 h to 5.20 h

I have implemented HomogCompt. Also accessible from CoCoA-5 (with man page).
No tests, no CoCoALib doc (oops... I'll fix that now).

Checked in.

#11 - 11 Mar 2020 18:18 - John Abbott

Added doc for CoCoALib.
Still no test :-/
Close anyway?

#12 - 20 Mar 2020 12:55 - John Abbott

- Status changed from Feedback to Closed

- % Done changed from 90 to 100