CoCoALib - Design #970

Weights in ElimMat?

11 Nov 2016 15:13 - Anna Maria Bigatti

Status:	In Progress	**Start date:**	11 Nov 2016
Priority:	Normal	**Due date:**	
Assignee:		**% Done:**	10%
Category:	Improving	**Estimated time:**	0.00 hour
Target version:	CoCoALib-1.0	**Spent time:**	0.30 hour

Description

(similar for ElimHomogMat)
What should ElimMat([2,3], mat([[1,5,2]])); return? (now it is (a))

```
(a) [0, 1, 1],
    [1, 5, 2],
    [0, 0, -1]
(b)             [0, 5, 2],
                [1, 5, 2],
                [0, 0, -1]
(c) [0, 5, 2],
    [1, 0, 0],
    [0, 0, -1]
```

History

#1 - 11 Nov 2016 15:35 - John Abbott

I prefer (c) to (b) perhaps because it is sparser.

(a) and (c) clearly do not give the same term-ordering though they are both clearly elimination orderings for indets 2 and 3.

What will you do if the weights are not given by a single row?
Case (a) clearly extends to any weights matrix; it is not so clear to me how to extend the other approach (just take first non-zero entry in the corresponding column?)

#2 - 11 Nov 2016 15:49 - John Abbott

- Status changed from New to In Progress

- % Done changed from 0 to 10

I suggest proceeding with definition (a):

- it is already implemented
- it is easy to explain/describe

If we come across an application where definition (a) is inappropriate then we can consider an alternative definition inspired by that application.