# CoCoALib - Slug #842

## PPMonoidSparse: comparisons are VERY SLOW

15 Feb 2016 13:54 - John Abbott

		Start date:	15 Feb 2016	
Priority:	Normal	Due date:		
Assignee:		% Done:	0%	
Category:	Improving	Estimated time:	0.00 hour	
Target version:	CoCoALib-1.0	Spent time:	1.00 hour	
Description				
I have just tried with Mario to use PPMonoidSparse rather than a normal dense repr (for a PPM with about 100 indets). The sparse impl was about 200 times <b>slower</b> than the dense one.				
Profiling showed that PPMonoidSparse::myCmpOrdvs was the culprit.				
Related issues:				
Related to CoCoALib - Feature #800: PPMonoidSparse: impl of sparse PPs			Closed	09 Nov 2015

#### History

#### #1 - 15 Feb 2016 13:54 - John Abbott

- Related to Feature #800: PPMonoidSparse: impl of sparse PPs added

### #2 - 15 Feb 2016 13:57 - John Abbott

I have created a temporary hack to the code for the special case of lex ordering. Essentially I have written a new fn myCmpLex; this largely solved the problem of low speed (not as well as I had hoped, but still good enough for Mario to proceed).

PPMonoidSparse::myCmpOrdvs is very "clean" but also understandably very slow (*e.g.* it always performs a matrix-vector product using BigInt arithmetic).

We should try to make the code work better for the most common cases.