

## CoCoALib - Design #432

### Semantics of IsPrintedWithMinus

31 Jan 2014 20:29 - John Abbott

<b>Status:</b>	In Progress	<b>Start date:</b>	31 Jan 2014
<b>Priority:</b>	Normal	<b>Due date:</b>	
<b>Assignee:</b>		<b>% Done:</b>	10%
<b>Category:</b>	Various	<b>Estimated time:</b>	0.00 hour
<b>Target version:</b>	CoCoALib-1.0	<b>Spent time:</b>	0.75 hour
<b>Description</b>			
We should clarify what the semantics of IsPrintedWithMinus are.			
I suggest that if IsPrintedWithMinus(x) gives true then IsPrintedWithMinus(-x) <b>must</b> give false; note that x and -x could both give false <i>e.g.</i> if using least non neg residue for a prime finite field.			
<b>Related issues:</b>			
Related to CoCoALib - Feature #222: Printing polynomials - spaces between terms		<b>In Progress</b>	<b>08 Aug 2012</b>
Related to CoCoALib - Feature #1117: Better printing of negative coeffs		<b>In Progress</b>	<b>07 Nov 2017</b>
Related to CoCoALib - Design #1156: Printing for RingElem		<b>New</b>	<b>12 Feb 2018</b>

#### History

##### #1 - 03 Feb 2014 12:49 - John Abbott

- Status changed from New to In Progress

If we follow the suggestion in note 6 of issue [#222](#) then we need to define IsPrintedWithMinus only for numerical ringelems (*i.e.* ones for which IsRational gives true). If so, then there is an easy definition:

```
bool IsPrintedWithMinus(ConstRefRingElem x)
{
    BigRat q;
    return IsRational(q, x) && sign(q) == -1;
}
```

##### #2 - 03 Feb 2014 15:27 - John Abbott

Anna rightly asked how should TwinFloats be handled.

Right now, I'm undecided. I'm quite sure that any polynomial with twinfloat coeffs will be very ugly/unreadable when printed.

##### #3 - 14 Jul 2014 18:13 - John Abbott

- Target version set to CoCoALib-1.0

- % Done changed from 0 to 10

If we use the definition I gave in comment 1 then some twin-float numbers will be recognized as rationals and should be printed out as such (I suppose). It could look a bit odd having a poly whose coeffs are partly rational and partly "floating-point"; then again a rational coeff is probably important information (since I'd expect it to be a rare event).

**#4 - 07 Nov 2017 12:34 - John Abbott**

- Related to Feature #1117: Better printing of negative coeffs added

**#5 - 12 Feb 2018 12:33 - John Abbott**

- Related to Design #1156: Printing for RingElem added