CoCoALib - Feature #1283

Printing for (prime) finite fields

11 May 2019 21:53 - John Abbott

Status:	Closed	**Start date:**	11 May 2019
Priority:	Normal	**Due date:**	
Assignee:	John Abbott	**% Done:**	100%
Category:	Improving	**Estimated time:**	1.01 hour
Target version:	CoCoALib-0.99650 November 2019	**Spent time:**	1.00 hour

Description

I have found a "useful" result in an old file.
Unfortunately the result contains printed forms of the RingHoms used rather than the characteristic of codomain (which is the useful information). A typical entry is:

```
RingHom(RingWithID(677, "ZZ[x]") --> RingWithID(550, "RingWithID(382)[x]") sending (x |--> x))
```

Great! So what is the characteristic?

I suggest that (small) prime finite fields print out in a better way when appearing as coeff rings.

Related issues:

Related to CoCoA-5 - Support #1311: THINGS TO DO IN GENOVA September 2019	**Closed**	**11 Sep 2019**

History

#1 - 11 May 2019 21:57 - John Abbott

Consider the following session:

```
/**/ P ::= ZZ/(5)[x];
/**/ println P;
RingWithID(4, "RingWithID(3)[x]")
/**/ CoeffRing(P);
RingWithID(3, "FFp(5)")
```

Frankly RingWithID(3)[x] is pretty meaningless to the reader.
Surely FFp(5)[x] is more helpful!

What do you think? Should I change the printing?

Note: to be honest I find the RingID almost never helpful (but it almost always printed)

#2 - 28 May 2019 14:45 - John Abbott

- Status changed from New to In Progress

- % Done changed from 0 to 10

I am aware that in CoCoALib one can create two rings which are essentially "identical", but are not considered as being the same by CoCoALib. An easy example is to create QQ[x] twice. The rings are plainly the same (even same term-ordering), but CoCoALib regards them as distinct, so "mixed ring" errors can easily arise. The user may be puzzled if they print out the same; hence the idea of making the printed form also print the RingID...

However the current approach is quite inconvenient and rather unnatural, so I think we need a better solution. But what? And how?

#3 - 25 Sep 2019 14:32 - John Abbott

- Related to Support #1311: THINGS TO DO IN GENOVA September 2019 added

#4 - 25 Sep 2019 14:33 - John Abbott

- Assignee set to John Abbott

- % Done changed from 10 to 20

Anna says OK to my "hack".
Now I need to document and check everything in.

#5 - 25 Sep 2019 16:04 - John Abbott

- Status changed from In Progress to Resolved

- % Done changed from 20 to 80

#6 - 25 Sep 2019 17:13 - John Abbott

- Status changed from Resolved to Closed

- % Done changed from 80 to 100

Where should the documentation go?

#7 - 10 Oct 2019 18:46 - Anna Maria Bigatti

- Target version changed from CoCoALib-0.99700 to CoCoALib-0.99650 November 2019

- Estimated time set to 1.01 h