

CoCoA-5 - Bug #994

SEGV: Toric example from Kazuki Maeda

09 Jan 2017 13:28 - John Abbott

Status:	Closed	Start date:	09 Jan 2017
Priority:	Urgent	Due date:	
Assignee:	Anna Maria Bigatti	% Done:	100%
Category:	enhancing/improving	Estimated time:	6.01 hours
Target version:	CoCoA-5.2.0 spring 2017	Spent time:	5.10 hours
Description			
2017 is starting well... :-/			
Kazuke Maeda reports the following SEGV problem: The following repeated computation eventually causes SEGV			
<pre>Use R:=QQ[x[1..21]]; S:=[[1, 1, 1, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0], [0, 0, 0, 0, 1, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0], [0, 0, 0, 0, 0, 0, 1, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0], [1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0], [0, 1, 0, 0, 1, 0, 0, 0, 0, 0, 0, 1, 1, 0, 0, 0, 0, 0, 0, 0, 0], [0, 0, 1, 0, 0, 1, 1, 0, 0, 0, 1, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0], [0, 0, 0, 1, 0, 0, 0, 0, 1, 1, 0, 1, 0, 1, 1, 0, 0, 0, 0, 0, 0]]; For I:=1 To 1000 Do PrintLn I; T:=toric(S); EndFor;</pre>			
On Linux 64-bit the SEGV happens after 56 iters. On my MacBook it happens after 33 iters. Kazuki says that 122 iters are needed on M\$ Windoze.			

History

#1 - 09 Jan 2017 13:32 - John Abbott

JAA has confirmed the bug (using current internal CVS version).

Marked as urgent because it triggers SEGV, and we hope to release a new version very soon.

I have placed this under CoCoA-5 rather than CoCoALib because it was reported by a CoCoA-5 user (with a CoCoA-5 example triggering the problem). JAA strongly suspects that the problem actually lies in Anna's old "toric" code; though it is strange that the problem has not arisen before.

We should email Kazuki when the bug has been corrected (hopefully soon!)

#2 - 09 Jan 2017 13:36 - John Abbott

I'm trying to compile CoCoA-5.1.5 on my netbook (after a clean reinstall of the system).

To my surprise BOOST installation failed very fast... there was no C compiler! 8-O

Luckily EduRoam was cooperative today, so I could install the compiler (and then BOOST without having to compile it).

Next surprise: I wanted to compile GMP with C++ extension (this involved installing m4 for configuration), but compilation failed... there was no make command! 8-O

#3 - 09 Jan 2017 17:34 - Anna Maria Bigatti

investigating.
On my Mac 33.

#4 - 10 Jan 2017 19:43 - Anna Maria Bigatti

- Assignee set to Anna Maria Bigatti
- % Done changed from 0 to 10

reduced to

```
use R ::= ZZ/(2)[x[1..12]];
```

```
J := ideal(  
  x[4]*x[10] +x[3]*x[11],  
  x[4]*x[10] +x[2]*x[12],  
  x[4]*x[6]*x[10] +x[3]*x[5]*x[12],  
  x[3]^2*x[5]*x[9] +x[1]*x[4]*x[6]*x[10],  
  x[3]*x[9] +x[1]*x[12],  
  x[8]*x[10] +x[7]*x[11]  
);
```

```
toric(J);
```

#5 - 29 Mar 2017 16:48 - Anna Maria Bigatti

- % Done changed from 10 to 90
- Estimated time set to 6.01 h

definitively a bug: "n" instead of "Indices[n]" in the preprocessing.
Obviously a very rare case.

#6 - 29 Mar 2017 16:49 - Anna Maria Bigatti

- Status changed from New to Feedback

#7 - 07 Apr 2017 09:48 - Anna Maria Bigatti

- Status changed from Feedback to Closed
- % Done changed from 90 to 100