

CoCoA-5 - Slug #1722

Daft slug

06 Feb 2023 15:55 - John Abbott

Status:	In Progress	Start date:	06 Feb 2023
Priority:	Low	Due date:	
Assignee:		% Done:	20%
Category:	enhancing/improving	Estimated time:	0.00 hour
Target version:	CoCoA-5.?.?	Spent time:	1.00 hour

Description

Since I'm now working for "the other side", I can send lots of bug reports ;-)

```
use R999 ::= QQ[x[1..999]];
I := ideal([y^2 | y in indets(R999)]);
Q := R999/I;
use Q;
J := 0; t0 := CpuTime(); J := sum([x[k] | k in 1..9])^10; TimeFrom(t0); ----> SLOWER
J := 0; t0 := CpuTime(); J := sum([x[k] | k in 1..9])^100; TimeFrom(t0); ----> FASTER (huh?)
```

History

#1 - 06 Feb 2023 15:56 - John Abbott

This not really serious, just unexpected/surprising.

JAA does not really think that there is anything to fix here.

#2 - 14 Feb 2023 21:23 - John Abbott

- Status changed from New to In Progress

On my current linux box the timings are:

```
19.777
16.297
```

#3 - 27 Feb 2023 12:40 - Anna Maria Bigatti

John Abbott wrote:

On my current linux box the timings are:
[...]

On my Mac

```
15.269
11.807
```

#4 - 27 Feb 2023 12:57 - Anna Maria Bigatti

- % Done changed from 0 to 20

At least partly due to memory creation for intermediate computations: restarting CoCoA and swapping the computations I get

```
/**/ J := 0; t0 := CpuTime(); J := sum([x[k] | k in 1..9])^100; TimeFrom(t0);  
13.190  
/**/ J := 0; t0 := CpuTime(); J := sum([x[k] | k in 1..9])^10; TimeFrom(t0);  
13.862
```

Notice also that this is effectively constant

```
/**/ f9 := sum([x[k] | k in 1..9]);  
/**/ J := 0; t0 := CpuTime(); J := f9^16; TimeFrom(t0);  
11.532  
/**/ J := 0; t0 := CpuTime(); J := f9^32; TimeFrom(t0);  
11.552  
/**/ J := 0; t0 := CpuTime(); J := f9^256; TimeFrom(t0);  
11.579
```