CoCoA-5 - Bug #1794

Strange bug: demo-Osaka2015

16 Mar 2024 12:13 - John Abbott

Status:	Resolved		**Start date:**	16 Mar 2024
Priority:	Normal		**Due date:**	
Assignee:			**% Done:**	70%
Category:	bug		**Estimated time:**	0.00 hour
Target version:	CoCoA-5.4.2		**Spent time:**	1.00 hour

Description
I observe differing output with the test demo-Osaka2015 when compiled using clang and with debugging active. The problem seems not to arise with g++. Platform is Linux (Ubuntu 23.04).

History

#1 - 16 Mar 2024 12:16 - John Abbott

My g++ reports version info gcc version 11.4.0 (Ubuntu 11.4.0-1ubuntu1~22.04)
My clang reports version info Ubuntu clang version 14.0.0-1ubuntu1.1.

Is this bug reproducible on other platforms?

My current guess is that a random number generator behaves differently... but I've not yet looked at the code!

#2 - 20 Mar 2024 22:41 - John Abbott

- Status changed from New to In Progress

- % Done changed from 0 to 10

The cause is not too surprising: demo-Osaka2015.cocoa5 uses a random example (on line 72).
Evidently, with debugging active, some random numbers are used internally, and this affects the publicly visible sequence.

BTW I have verified that the problem exists **also** when compiling with g++ in debug mode. Curiously, the .cocoa5 files contains a comment saying what the random values are... but the comment is not the same as what is actually generated...

Ideally we would replace the randomness by specific "random" numbers.

#3 - 21 Mar 2024 09:39 - Anna Maria Bigatti

John Abbott wrote:

> The cause is not too surprising: demo-Osaka2015.cocoa5 uses a random example (on line 72).
> Evidently, with debugging active, some random numbers are used internally, and this affects the publicly visible sequence.
>
> BTW I have verified that the problem exists **also** when compiling with g++ in debug mode. Curiously, the .cocoa5 files contains a comment saying what the random values are... but the comment is not the same as what is actually generated...

For some reason (I cannot remember, but I think I knew it when it first happened, recently) the random values I'm getting now differ from the original version of the test (in the comment). I didn't think it depended on clang, so I changed the expected output.

> Ideally we would replace the randomness by specific "random" numbers.

OK, I agree, especially if that changes with debugging on/off.   Should I do it?

#4 - 19 Apr 2024 22:10 - John Abbott

- Status changed from In Progress to Resolved

- % Done changed from 10 to 70

random is called harmlessly in exbugs.cocoa5.
We should check **ErrMesg.cocoa5** and **test-ApproxSolve.cocoa5**; it is not clear to me that random is used harmlessly in these files!!