CoCoA-5 - Bug #1651

SEGV subsets ??

25 Jan 2022 09:42 - John Abbott

Status:	Closed	**Start date:**	25 Jan 2022
Priority:	Normal	**Due date:**	
Assignee:	John Abbott	**% Done:**	100%
Category:	bug	**Estimated time:**	0.99 hour
Target version:	CoCoA-5.4.0	**Spent time:**	1.00 hour

Description

This was a surprise:

```
/**/ L := 1..5000;
/**/ S := subsets(L,2);

Process cocoa5 segmentation fault (core dumped)
```

The crash came relatively quickly (30s, maybe)
Stack overflow? top did not report excessive memory usage (about 1Gbyte)

History

#1 - 25 Jan 2022 16:32 - John Abbott

On Julian's computer (Linux, CoCoA-5.3.3b), it gave a controlled CoCoA-5 error: "too many recursive calls" (or similar).
Why did mine SEGV?

#2 - 26 Jan 2022 12:53 - John Abbott

- Status changed from New to In Progress

- % Done changed from 0 to 10

I have just used ulimit to increase my stacksize limit, and now I get "too many recursions":

```
--> ERROR: Too many nested scopes
--> WHERE: at line 46 (column 24) of combinatoria.cpkg5
-->   If N = 1 Then Return [[X] | X In S]; EndIf;
-->                         ^^^^^^^^^^^^^^
```

I suppose we should re-write subsets so that it does not recurse too deeply.

#3 - 26 Jan 2022 15:28 - Anna Maria Bigatti

On my Mac I get

```
--> ERROR: Too many nested scopes
```

#4 - 31 Jan 2022 17:49 - John Abbott

- Status changed from In Progress to Resolved

- Assignee set to John Abbott

- % Done changed from 10 to 70

I have modified the impl of SubsetsN in combinatoria.cpkg5 so that it handles 2-subsets specially (avoiding recursion).

My computer SEGV'd because of stack overflow. Not sure why. Julian's Linux box had the same stack limit but didn't overflow.
Anyway, the non-recursive impl should now avoid that problem completely.

Marked as **resolved**.

#5 - 03 Feb 2022 19:03 - John Abbott

- Status changed from Resolved to Closed

- % Done changed from 70 to 100

- Estimated time set to 0.99 h

Too much stress to keep this open any longer. I'm pretty sure it is fixed now (and faster too).
Let the users do the testing -- that's what everyone else seems to do!