

CoCoALib - Slug #1680

FloorLog2 or SizeInBase?

21 Apr 2022 19:30 - John Abbott

Status:	Closed	Start date:	21 Apr 2022
Priority:	Normal	Due date:	
Assignee:	John Abbott	% Done:	100%
Category:	Tidying	Estimated time:	1.66 hour
Target version:	CoCoALib-0.99850	Spent time:	1.70 hour
Description In several places FloorLog2 is used to obtain a quick estimate of the size of an integer; however, SizeInBase is noticeably faster (and just as accurate, if the base is 2). Check through the code, and replace FloorLog2 by SizeInBase where appropriate.			
Related issues: Related to CoCoALib - Design #1693: SizeInBase: obsolete			
		Closed	08 Aug 2022

History

#1 - 21 Apr 2022 19:33 - John Abbott

I had completely forgotten that we had created SizeInBase. FloorLog2 is fairly quick, but SizeInBase is instant.

I do not really expect changing the calls to make a great speed difference, but it is worth changing just for "cleanliness" (and to remind me that SizeInBase is the quick size estimate fn).

#2 - 06 May 2022 15:04 - John Abbott

- Status changed from New to In Progress
- % Done changed from 0 to 10

Would it not be better to use the name **BitSize** rather than require that the user call SizeInBase(N,2)?
Would we even need to make SizeInBase public?

#3 - 06 May 2022 15:19 - John Abbott

Anna says that I should have impl'd FloorLog2 so that it calls SizeInBase directly. Oops. Why did I not think of that?

#4 - 06 May 2022 21:06 - John Abbott

- Status changed from In Progress to Feedback
- % Done changed from 10 to 90

Changed impl of FloorLog2 as described above... why was it not already like that? No idea!
All tests pass.

#5 - 13 Jun 2022 15:04 - John Abbott

SizeInBase is called only rarely; I have replaced one by a call to FloorLog2 because I think it makes the code clearer.

I shall remove the default value for arg 2 in SizeInBase since it makes no sense (to me now).

#6 - 08 Aug 2022 20:14 - John Abbott

- *Related to Design #1693: SizeInBase: obsolete added*

#7 - 08 Aug 2022 20:16 - John Abbott

- *Status changed from Feedback to Closed*

- *% Done changed from 90 to 100*

- *Estimated time set to 1.66 h*

After discussion with Anna we have decided that SizeInBase is obsolete; so the original question here is no longer relevant.

FloorLog2 has been made faster (both for BigInt and for machine ints).