

Ruby - Bug #4308

Wrong Bignum calculation in some case.

01/24/2011 06:59 AM - shouichi (Shouichi Kamiya)

Status:	Rejected	Backport:
Priority:	Normal	
Assignee:		
Target version:		
ruby -v:	ruby 1.9.2p136 (2010-12-25 revision 30365) [x86_64-darwin10.5.0]	
Description		
=begin		
I tried to calculate variance of an array but calculation returns wrong result when numbers are big.The problem also happens in 1.8.7-p330.		
I attached a file that recreates The problem.		
=end		

History

#1 - 01/24/2011 09:58 AM - naruse (Yui NARUSE)

- Status changed from Open to Rejected

=begin
It seems from floating point's accuracy.
In line 9, it uses to_f and the value exceeds its limit.
=end

#2 - 01/24/2011 09:12 PM - nobu (Nobuyoshi Nakada)

=begin
#!/usr/bin/env ruby

class Array
 def sum
 reduce(:+)
 end

 def var
 empty? ? 0.0 : (map {|x| x ** 2}.sum * size - sum ** 2).fdiv(size ** 2)
 end
end

All of these should clearly return 0.

p [1295218865, 1295218865, 1295218865, 1295218865, 1295218865].var
#=> 0.0

p [1295218865, 1295218865, 1295218865, 1295218865, 1295218865, 1295218865].var
#=> 0.0

p [1295218865, 1295218865, 1295218865, 1295218865, 1295218865, 1295218865, 1295218865].var
#=> 0.0

=end

Files

wrong_bignum_calc.rb	514 Bytes	01/24/2011	shouichi (Shouichi Kamiya)
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