

Ruby 1.8 - Feature #2561

1.8.7 Patch reduces time cost of Rational operations by 50%.

01/06/2010 10:58 AM - kstephens (Kurt Stephens)

Status:	Closed	
Priority:	Normal	
Assignee:	knu (Akinori MUSHHA)	
Target version:		
Description		
=begin This changes adds a specialize Fixnum#gcd and a tuned rational.rb. Reduced overall time on Rational operations by > 50%. user system total real test_it 22.380000 2.140000 24.520000 (24.559388) test_it ks_rational 17.870000 1.830000 19.700000 (19.687221) test_it ks_rational + Fixnum#gcd 10.660000 0.000000 10.660000 (10.665765) The patch will perform better with Fixnum#gcd on numeric.c but still is faster with only the rational.rb changes. I have a version for 1.8.6 if someone wants it. =end		
Related issues:		
Has duplicate Ruby 1.8 - Backport #838: faster gcd for 187	Closed	12/08/2008

Associated revisions

Revision d2e30d50cf20a87f6d2e8a2cfd2b559af6da28bf - 02/05/2010 02:11 PM - knu (Akinori MUSHHA)

- ext/rational/rational.c: Added to provide a fast implementation of Fixnum#gcd (and maybe some others in the future) in C. The base code was submitted by Kurt Stephens. [Feature #2561]
- ext/rational/lib/rational.rb: Moved from lib/rational.rb. Make overall code optimization; submitted by Kurt Stephens. [Feature #2561]
- test/rational/test_rational.rb, test/rational/test_rational2.rb: Add tests for Rational, ported from trunk.
- test/rational/test_fixnum_gcd.rb: Add a test for Integer#gcd. Case values are only provided for i386 and amd64 at the moment; submitted by Kurt Stephens. [Feature #2561]

git-svn-id: svn+ssh://ci.ruby-lang.org/ruby/branches/ruby_1_8@26581 b2dd03c8-39d4-4d8f-98ff-823fe69b080e

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Revision 26581 - 02/05/2010 02:11 PM - knu (Akinori MUSHA)

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History

#1 - 01/06/2010 11:28 AM - naruse (Yui NARUSE)

- Status changed from Open to Assigned
- Assignee set to knu (Akinori MUSHA)

```
=begin
Discuss in Ruby 1.8 first,
=end
```

#2 - 01/07/2010 03:43 AM - kstephens (Kurt Stephens)

- File rational_performance.rb added
- File ruby-1.8.7-rational.patch added

```
=begin
New version:
```

Avoid additional method calls to Float(), call #to_f directly. Avoid Rational() when its clear that denominator will never be 1.

```
=end
```

#3 - 01/12/2010 01:18 AM - kstephens (Kurt Stephens)

- File ruby-1.8.7-rational.patch added
- File gcd_test.rb added

```
=begin
Fixed Fixnum#gcd for FIXNUM_MIN.
```

Ref: <http://github.com/kstephens/rubyenterpriseedition187/commit/877d5e4c7892248bb7486f24c076cb23d565a466>

gcd_test.rb should pass on 32-bit builds.

```
=end
```

#4 - 01/22/2010 05:58 AM - kstephens (Kurt Stephens)

- File gcd_test.rb added
- File ruby-1.8.7-fixnum_gcd.patch added

=begin
Fixed Fixnum#gcd to FIXNUM_MIN on 64-bit longs.

Ref: <http://github.com/kstephens/rubyenterpriseedition187-248/commit/4863695e774d427d95c0828f8d2d5a92a433a1c4>

gcd_test.rb should pass on 64-bit builds.

=end

#5 - 01/24/2010 03:48 AM - knu (Akinori MUSHA)

=begin
Patches look fine to me. I'll handle this as soon as I can take the time, hopefully within a couple weeks.

I think it's better to have the C part as extension rather than putting Fixnum#gcd solely in the core, so I'll make some layout changes to bring this in in the best shape for future maintainability.

=end

#6 - 02/05/2010 11:17 PM - knu (Akinori MUSHA)

- Status changed from Assigned to Closed

- % Done changed from 0 to 100

=begin
This issue was solved with changeset [r26581](#).
Kurt, thank you for reporting this issue.
Your contribution to Ruby is greatly appreciated.
May Ruby be with you.

=end

Files

rational_performance.rb	1.85 KB	01/06/2010	kstephens (Kurt Stephens)
ruby-1.8.7-rational.patch	9.1 KB	01/06/2010	kstephens (Kurt Stephens)
rational_performance.rb	2.29 KB	01/07/2010	kstephens (Kurt Stephens)
ruby-1.8.7-rational.patch	9.39 KB	01/07/2010	kstephens (Kurt Stephens)
ruby-1.8.7-rational.patch	10.7 KB	01/12/2010	kstephens (Kurt Stephens)
gcd_test.rb	21.6 KB	01/12/2010	kstephens (Kurt Stephens)
gcd_test.rb	44.6 KB	01/22/2010	kstephens (Kurt Stephens)
ruby-1.8.7-fixnum_gcd.patch	1.28 KB	01/22/2010	kstephens (Kurt Stephens)