Ruby master - Bug #14695

[2.5.1] `===` is 1.77x slower than `match?`

04/18/2018 07:30 AM - baweaver (Brandon Weaver)

<table>
<thead>
<tr>
<th>Status:</th>
<th>Closed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Priority:</td>
<td>Normal</td>
</tr>
<tr>
<td>Assignee:</td>
<td></td>
</tr>
<tr>
<td>Target version:</td>
<td>ruby 2.5.1p57 (2018-03-29 revision 63029) [x86_64-darwin17]</td>
</tr>
<tr>
<td>Backport:</td>
<td>2.3: UNKNOWN, 2.4: UNKNOWN, 2.5: UNKNOWN</td>
</tr>
</tbody>
</table>

### Description

Was evaluating some of the `===` implementations while testing and came across this one:

```ruby
# ruby 2.5.1p57 (2018-03-29 revision 63029) [x86_64-darwin17]

require 'benchmark/ips'
def run_benchmark(title, **benchmarks)
  puts '', title, '=' * title.size, ''
  # Validation
  benchmarks.each do |benchmark_name, benchmark_fn|
    puts "#{benchmark_name} result: #{benchmark_fn.call()}
  end
  puts
  Benchmark.ips do |bm|
    benchmarks.each do |benchmark_name, benchmark_fn|
      bm.report(benchmark_name, &benchmark_fn)
    end
    bm.compare!
  end
end

regex = /foo/
# => /foo/
string = 'foobarbaz'
# => "foobarbaz"
run_benchmark('=== vs match? - 2.5.1',
  '===': -> { regex === string },
  'match?:' -> { regex.match? string })

=== vs match? - 2.5.1
---------------------

=== result: true
match? result: true

Warming up -----------------------------
  ===  173.435k i/100ms
  match?  233.124k i/100ms
Calculating -----------------------------
  ===  3.174M (± 1.6%) i/s - 15.956M in 5.029027s
  match?  5.626M (± 2.5%) i/s - 28.208M in 5.016991s

Comparison:
  match?:  5626170.1 i/s
  ===:  3173659.6 i/s - 1.77x slower
```
It appears that === is running a bit slower than match?, though there may be some concerns around old code potentially relying on regex set globals after === too in case statements, so not sure there.

Related issues:
Related to Ruby master - Feature #8110: Regex methods not changing global var... Closed

History

#1 - 04/18/2018 07:57 AM - shyouhei (Shyouhei Urabe)
baweaver (Brandon Weaver) wrote:

It appears that === is running a bit slower than match?

Accurate observation. Regexp#match? was introduced as a "faster alternative" to ordinary matches; see also https://bugs.ruby-lang.org/issues/8110

#2 - 04/18/2018 07:57 AM - shyouhei (Shyouhei Urabe)
- Related to Feature #8110: Regex methods not changing global variables added

#3 - 07/29/2019 10:20 PM - jeremyevans0 (Jeremy Evans)
- Status changed from Open to Closed