Ruby master - Bug #12705

yielding args to a lambda uses block/proc rather than lambda/method semantics

08/25/2016 05:48 PM - bug hit (bug hit)

| Status:   | Closed   |
| Priority: | Normal   |
| Assignee: | nobu (Nobuyoshi Nakada) |
| Target version: | 2.5 |
| ruby -v: | Backport: 2.2: REQUIRED, 2.3: REQUIRED, 2.4: DONE |

**Description**

```ruby
def yield_test
  yield 1, 2
  yield [1, 2]
end

def foo(a, b)
  p a, b
end

method_lambda = method(:foo).to_proc
normal_lambda = ->a, b{p a, b}

yield_test(&normal_lambda)
yield_test(&method_lambda)
```

the yield of [1, 2] to the method_lambda produces an argument error as you would expect
but the same yield to the normal_lambda does not, the single array arg is splatted per block/proc semantics

**Related issues:**

Related to Ruby master - Bug #13391: wrong number of arguments error for Hash...

**Associated revisions**

Revision 88d667ee - 12/26/2016 09:32 AM - nobu (Nobuyoshi Nakada)

[Bug #12705]

git-svn-id: svn+ssh://ci.ruby-lang.org/ruby/trunk@57192 b2dd03c8-39d4-4d8f-98ff-823fe69b080e

Revision 57192 - 12/26/2016 09:32 AM - nobu (Nobuyoshi Nakada)

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Revision 57192 - 12/26/2016 09:32 AM - nobu (Nobuyoshi Nakada)

[Bug #12705]

Revision 57464 - 01/30/2017 07:39 AM - ko1 (Koichi Sasada)

add a ticket number.

Revision 976becf7 - 03/19/2017 01:11 AM - nobu (Nobuyoshi Nakada)

vm_args.c: arity check of lambda

- vm_eval.c (rb_yield_lambda): new function which yields an array to a proc and splat to a lambda. mainly for Enumerable only.
- vm_args.c (setup_parameters_complex): remove special lambda splatting for [Bug #9605]: [ruby-core:77065] [Bug #12705]
* vm_insnhelper.c (vm_callee_setup_block_arg): ditto.

Revision 58019 - 03/19/2017 01:11 AM - nobu (Nobuyoshi Nakada)
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Revision 539ab305 - 03/21/2017 02:04 PM - naruse (Yui NARUSE)
merge revision(s) 57192,57464,58016,58018,58019: [Backport #12705]

* test_lambda.rb: refine test
  * test/ruby/test_lambda.rb (test_lambda_as_iterator): refine a
test for the intention of the original report.
  [ruby-core:61340] [Bug #9605]

* vm_eval.c (rb_yield_lambda): new function which yields an array
to a proc and splat to a lambda. mainly for Enumerable only.
* vm_args.c (setup_parameters_complex): remove special lambda
  splatting for [Bug #9605]. [ruby-core:77065] [Bug #12705]
* vm_insnhelper.c (vm_callee_setup_block_arg): ditto.

Revision 58045 - 03/21/2017 02:04 PM - naruse (Yui NARUSE)
merge revision(s) 57192,57464,58016,58018,58019: [Backport #12705]

09/02/2022
add a ticket number.

test_lambda.rb: refine test

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test for the intention of the original report.

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  splatting for [Bug #9605]. [ruby-core:77065] [Bug #12705]

* vm_insnhelper.c (vm_callee_setup_block_arg): ditto.

History

#1 - 08/25/2016 06:06 PM - bughit (bug hit)
a related point is that lambda procs with the same arity (normal_lambda, method_lambda) should behave the same

#2 - 08/25/2016 06:10 PM - bughit (bug hit)
- Subject changed from yielding args to a lambda uses block/proc rather lambda/method semantics to yielding args to a lambda uses block/proc rather than lambda/method semantics

#3 - 10/11/2016 08:32 AM - shyouhei (Shyouhei Urabe)
- Status changed from Open to Assigned
- Assignee set to ko1 (Koichi Sasada)

This (stabby lambda not raising exception) is a bug that should be fixed.

#4 - 10/11/2016 08:41 AM - akr (Akira Tanaka)
lambda should be strict on number of arguments.
So, stabby lambda (and traditional lambda) should not expand
single array argument.

It works until ruby 2.2.
Ruby 2.2 introduce the bug.

% all-ruby -e 'def yield_test
  yield [1, 2]
end
'
normal_lambda = ->a, b{p [a, b] }
yield_test(normal_lambda)
...

ruby-2.1.10 -e:5:in `block in <main>':: wrong number of arguments (1 for 2) (ArgumentError)
  from -e:3:in `yield_test'
  from -e:6:in `<main>'

Ruby 2.2.0-preview1 [1, 2]
ruby-2.2.0-preview2 [1, 2]
ruby-2.2.0-rc1 [1, 2]
ruby-2.2.0 [1, 2]
ruby-2.2.1 [1, 2]
ruby-2.2.2 [1, 2]
ruby-2.2.3 [1, 2]
ruby-2.2.4 [1, 2]
ruby-2.2.5 [1, 2]
ruby-2.2.0-rc1 [1, 2]
ruby-2.3.0-preview1 [1, 2]
ruby-2.3.0-preview2 [1, 2]
ruby-2.3.0 [1, 2]
ruby-2.3.1 [1, 2]
ruby-2.4.0-preview1 [1, 2]

#5 - 10/12/2016 04:49 PM - bughit (bug hit)
please also take a look at Bug #12706, it may be related, also has to to with how args are yielded to lambdas

#6 - 10/15/2016 10:37 AM - Eregon (Benoit Daloze)
This bug seems specific to yield, calling the lambda behaves as expected.
I added specs in ruby/spec to verify this behavior:
https://github.com/ruby/spec/commit/c4cabc37ac804ea127bd0216c0239e5f9045ec1

The ruby_bug guard can be adjusted as soon as there is a minor release containing the fix for this bug.

#7 - 11/04/2016 08:33 AM - ko1 (Koichi Sasada)
This is working memo. Now I can't find out the solution.
(1) auto splat for lambda with yield ary is allowed [Bug #9605]. So #4 is intentional change.
(2) However, lambda generated by Method#to_proc is not allowed (reported by this ticket)
(3) The reason of (2) is, MRI splat ary only for ISeq level proc (splat at vm_callre_setup_block_arg() for lambda, called by vm_invode_iseq_block()),
but bmcall() (specified by ilfunc->func) doesn't care it.
Possible solution (just now I can make) is vm_invode_ifunc_block() checks it, but not clean.
Fundamentally, the spec is not clean, so code should not be clean.

#8 - 12/26/2016 09:23 AM - naruse (Yui NARUSE)
- Backport changed from 2.1: UNKNOWN, 2.2: UNKNOWN, 2.3: UNKNOWN to 2.2: UNKNOWN, 2.3: REQUIRED, 2.4: REQUIRED

#9 - 12/26/2016 09:32 AM - nobu (Nobuyoshi Nakada)
- Status changed from Assigned to Closed

Applied in changeset r57192.

[Bug #12705]

#10 - 01/09/2017 03:32 AM - nobu (Nobuyoshi Nakada)
- Status changed from Closed to Assigned

#11 - 01/09/2017 03:52 AM - nobu (Nobuyoshi Nakada)

What's the status?

Is the current behavior on a lambda proc is intentional, and has the spec been changed since 2.2?
And is the difference between a method proc and a lambda proc intentional, or not?
If it is unintentional, splat for a method proc too?

#12 - 01/26/2017 01:44 PM - sos4nt (Stefan Schüßler)
I encountered this bug myself today and while searching for a reason behind it, I found this:
https://github.com/ruby/ruby/blob/v2_4_0/vm_insnhelper.c#L2435

    static VALUE vm_yield_with_cfunc(rb_thread_t *th,
       const struct rb_captured_block *captured,
       VALUE self, int argc, const VALUE *argv, VALUE block_handler)
    {
        int is_lambda = FALSE; /* TODO */
    }

That static FALSE value doesn't look right ...

#13 - 01/31/2017 07:02 AM - ko1 (Koichi Sasada)
- Assignee changed from ko1 (Koichi Sasada) to nobu (Nobuyoshi Nakada)

Nobu and I discussed about this issue and Nobu is trying to fix this issue by simplify lambda arg spec.

#14 - 03/13/2017 02:16 PM - shyouhei (Shyouhei Urabe)
- Target set to 2.5

We looked at this issue in today's developer meeting and Koichi said he want this be fixed in 2.5.
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- vm_insnhelper.c (vm_callee_setup_block_arg): ditto.

#16 - 03/21/2017 02:05 PM - naruse (Yui NARUSE)
- Backport changed from 2.2: UNKNOWN, 2.3: REQUIRED, 2.4: REQUIRED to 2.2: UNKNOWN, 2.3: REQUIRED, 2.4: DONE

ruby_2_4 r58045 merged revision(s) 57192,57464,58016,58018,58019.

#17 - 03/23/2017 03:43 AM - usa (Usaku NAKAMURA)
- Backport changed from 2.2: UNKNOWN, 2.3: REQUIRED, 2.4: DONE to 2.2: REQUIRED, 2.3: REQUIRED, 2.4: DONE

#18 - 03/31/2017 06:22 AM - nobu (Nobuyoshi Nakada)
- Related to Bug #13391: wrong number of arguments error for Hash#map when lambda given added