Ruby - Bug #21012

Compiling `a['a','b'],=1` with parse.y fails

Normal

01/07/2025 06:43 PM - tompng (tomoya ishida)

Status: Closed

Assignee:

Priority:

Target version:

ruby -v: ruby 3.5.0dev (2025-01-06T01:50:53Z

master c8e3d745fa) [x86_64-linux]

Backport: 3.1: REQUIRED, 3.2: DONE, 3.3:

DONE, 3.4: DONE

Description

Compiling this code with parse.y fails with segmentation fault.

a['a','b'],=1

Compiling a['a',x],=1 generates instruction sequence that wrong contains opt_aset_with.

```
$ ruby --parser=parse.y --dump=insn -e "a['a',999],=1"
== disasm: \#<ISeq:<main>@-e:1 (1,0)-(1,13)>
                                                                ( 1)[Li]
0000 putself
                                             <calldata!mid:a, argc:0, FCALL|VCALL|ARGS_SIMPLE>
0001 opt_send_without_block
0003 putobject_INT2FIX_1_
0004 dup
                                             1, 0
0005 expandarray
                                             1001
0008 topn
                                             1001
2006 topn
                                             1000
2008 topn
                                             "a", <calldata!mid:[]=, argc:2, ARGS_SIMPLE>
2010 opt_aset_with
2013 setn
                                             1000
2015 pop
3014 pop
3015 leave
```

Associated revisions

Revision e0d600ec190c64aff76cfcbd6009cffb927da166 - 01/08/2025 04:49 PM - jeremyevans (Jeremy Evans)

Avoid opt_aset_with optimization inside multiple assignment

Previously, since the opt_aset_with optimization was introduced, use of the opt_aset_with optimization inside multiple assignment would result in a segfault or incorrect instructions.

Fixes [Bug #21012]

Co-authored-by: Nobuyoshi Nakada nobu.nakada@gmail.com

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Revision 3a986b47cba80bdc081638d5f759a26c1beb8fad - 01/15/2025 01:56 AM - k0kubun (Takashi Kokubun)

merge revision(s) e0d600ec190c64aff76cfcbd6009cffb927da166: [Backport #21012]

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Revision f9adaab928dff8dd7ecd4c560c288300a3c74880 - 01/25/2025 05:37 AM - nagachika (Tomoyuki Chikanaga)

merge revision(s) e0d600ec190c64aff76cfcbd6009cffb927da166: [Backport #21012]

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Revision f9adaab9 - 01/25/2025 05:37 AM - nagachika (Tomoyuki Chikanaga)

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Revision 3fdf7279a0b1ac35fdf233464a93b3d268133d5a - 02/14/2025 05:08 AM - k0kubun (Takashi Kokubun)

merge revision(s) e0d600ec190c64aff76cfcbd6009cffb927da166: [Backport #21012]

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History

#1 - 01/07/2025 08:15 PM - jeremyevans0 (Jeremy Evans)

- Backport changed from 3.1: UNKNOWN, 3.2: UNKNOWN, 3.3: UNKNOWN, 3.4: UNKNOWN to 3.1: REQUIRED, 3.2: REQUIRED, 3.3: REQUIRED, 3.4: REQUIRED

From testing some historical versions on my system:

For: a['a','b'],=1

- Ruby 1.9-2.5: No segfault, looks to be correct instructions
- Ruby 2.6-3.1: Segfault
- Ruby 3.2: No segfault, but incorrect instructions
- Ruby 3.3-3.4: Segfault

For: a['a',10],=1:

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- Ruby 1.9-2.5: No segfault, looks to be correct instructions
- Ruby 2.6-3.1: Segfault
- Ruby 3.2-3.4: No segfault, but incorrect instructions

#2 - 01/08/2025 01:38 AM - jeremyevans0 (Jeremy Evans)

I've submitted a PR that should fix this: https://github.com/ruby/ruby/pull/12528

#3 - 01/08/2025 05:24 PM - jeremyevans (Jeremy Evans)

- Status changed from Open to Closed

Applied in changeset gitle0d600ec190c64aff76cfcbd6009cffb927da166.

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#4 - 01/15/2025 01:56 AM - k0kubun (Takashi Kokubun)

- Backport changed from 3.1: REQUIRED, 3.2: REQUIRED, 3.3: REQUIRED, 3.4: REQUIRED to 3.1: REQUIRED, 3.2: REQUIRED, 3.3: DONE, 3.4: REQUIRED

ruby_3_3 3a986b47cba80bdc081638d5f759a26c1beb8fad merged revision(s) e0d600ec190c64aff76cfcbd6009cffb927da166.

#5 - 01/25/2025 06:33 AM - nagachika (Tomoyuki Chikanaga)

- Backport changed from 3.1: REQUIRED, 3.2: REQUIRED, 3.3: DONE, 3.4: REQUIRED to 3.1: REQUIRED, 3.2: DONE, 3.3: DONE, 3.4: REQUIRED

ruby 3 2 f9adaab928dff8dd7ecd4c560c288300a3c74880 merged revision(s) e0d600ec190c64aff76cfcbd6009cffb927da166.

#6 - 02/14/2025 05:08 AM - k0kubun (Takashi Kokubun)

- Backport changed from 3.1: REQUIRED, 3.2: DONE, 3.3: DONE, 3.4: REQUIRED to 3.1: REQUIRED, 3.2: DONE, 3.3: DONE, 3.4: DONE

 $ruby_3_4 \ \underline{3fdf7279a0b1ac35fdf233464a93b3d268133d5a} \ merged \ revision (s) \ \underline{e0d600ec190c64aff76cfcbd6009cffb927da166}.$

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