

Ruby - Bug #20307

`Hash#update` from compare_by_identity hash can have unfrozen string keys

02/27/2024 03:33 AM - nobu (Nobuyoshi Nakada)

Status:Closed Priority:Normal Assignee: Target version: ruby -v:	Backport:3.0: REQUIRED, 3.1: REQUIRED, 3.2: DONE, 3.3: DONE
Description I don't think this behavior is expected. <pre>i = Hash.new.compare_by_identity k = "a" i[k] = 0 h = {}.update(i) p h.compare_by_identity? # => false p h["a"] # => 0 k.upcase! # `k` is still in `h`. p h.keys.include?(k) # => true # but not found. p ((h.fetch(k) rescue \$!)) # => #<KeyError: key not found: "A"> h["A"] = 1 p h # => {"A"=>0, "A"=>1}</pre> I expect h to still have "a"=>0 entry.	

Associated revisions

Revision f36a71e26995b69ff72bc132bbcf40ad89571414 - 03/14/2024 08:49 AM - nobu (Nobuyoshi Nakada)

[Bug #20307] Fix Hash#update to make frozen copy of string keys

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Revision f36a71e2 - 03/14/2024 08:49 AM - nobu (Nobuyoshi Nakada)

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Revision 917f3e5d22b3364002eb1fdc2f94b35ff76f6a73 - 05/28/2024 10:17 PM - k0kubun (Takashi Kokubun)

merge revision(s) f36a71e26995b69ff72bc132bbcf40ad89571414: [Backport #20307]

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Revision 917f3e5d - 05/28/2024 10:17 PM - k0kubun (Takashi Kokubun)

merge revision(s) f36a71e26995b69ff72bc132bbcf40ad89571414: [Backport #20307]

[Bug #20307] Fix `Hash#update` to make frozen copy of string keys

Revision 90a44bcd39c569d851f73d167955c83f3ff2384f - 07/13/2024 06:43 AM - nagachika (Tomoyuki Chikanaga)

merge revision(s) f36a71e26995b69ff72bc132bbcf40ad89571414: [Backport #20307]

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merge revision(s) f36a71e26995b69ff72bc132bbcf40ad89571414: [Backport #20307]

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Revision 90a44bcd - 07/13/2024 06:43 AM - nagachika (Tomoyuki Chikanaga)

merge revision(s) f36a71e26995b69ff72bc132bbcf40ad89571414: [Backport #20307]

[Bug #20307] Fix `Hash#update` to make frozen copy of string keys

History

#1 - 02/27/2024 03:54 AM - nobu (Nobuyoshi Nakada)

- Description updated

#2 - 02/27/2024 03:56 AM - nobu (Nobuyoshi Nakada)

- Description updated

#3 - 02/27/2024 04:01 AM - nobu (Nobuyoshi Nakada)

- Description updated

#4 - 02/27/2024 04:04 AM - nobu (Nobuyoshi Nakada)

- Description updated

#5 - 02/27/2024 04:46 AM - nobu (Nobuyoshi Nakada)

- Description updated

<https://github.com/ruby/ruby/pull/10099>

#6 - 03/03/2024 03:17 PM - Dan0042 (Daniel DeLorme)

After the code above, we can do

```
h.rehash
p h      #=> { "A"=>1 }
```

When a key is clobbered like that due to a rehash, maybe there should be a warning or an error? It seems to me a pretty clear symptom of a bug, either in the ruby code or in the interpreter itself.

#7 - 03/03/2024 04:15 PM - byroot (Jean Boussier)

I don't understand the bug report nor the patch.

If you make a frozen copy of the provided key, you change the key. e.g.

```
cache = {}.compare_by_identity
key = Random.bytes(5)
```

```
cache[key] = 1
p cache[key]
```

I'd expect cache[key] to return 1, with what I understand of your patch, it wouldn't anymore.

Mutable hash keys aren't a new thing, it's only that regular hash have this special behavior for strings to keep a frozen copy of the string key, but they don't do that for any other type.

I don't see why identity hashes would need to copy this behavior.

#8 - 03/03/2024 04:18 PM - byroot (Jean Boussier)

ignore me, I misunderstood the reproduction script. h is not compared by identity.

#9 - 03/14/2024 08:49 AM - nobu (Nobuyoshi Nakada)

- Status changed from Open to Closed

Applied in changeset [git:f36a71e26995b69ff72bc132bbcf40ad89571414](#).

[Bug [#20307](#)] Fix Hash#update to make frozen copy of string keys

#10 - 05/28/2024 11:43 PM - k0kubun (Takashi Kokubun)

- Backport changed from 3.0: *REQUIRED*, 3.1: *REQUIRED*, 3.2: *REQUIRED*, 3.3: *REQUIRED* to 3.0: *REQUIRED*, 3.1: *REQUIRED*, 3.2: *REQUIRED*, 3.3: *DONE*

ruby_3_3 [917f3e5d22b3364002eb1fdc2f94b35ff76f6a73](#) merged revision(s) [f36a71e26995b69ff72bc132bbcf40ad89571414](#).

#11 - 07/13/2024 07:35 AM - nagachika (Tomoyuki Chikanaga)

- Backport changed from 3.0: *REQUIRED*, 3.1: *REQUIRED*, 3.2: *REQUIRED*, 3.3: *DONE* to 3.0: *REQUIRED*, 3.1: *REQUIRED*, 3.2: *DONE*, 3.3: *DONE*

ruby_3_2 [90a44bcd39c569d851f73d167955c83f3ff2384f](#) merged revision(s) [f36a71e26995b69ff72bc132bbcf40ad89571414](#).