Ruby master - Bug #10722

Array#keep_if is borked if user calls 'break'

01/09/2015 08:52 AM - wanabe (_ wanabe)

Status:	Closed		
Priority:	Normal		
Assignee:			
Target version:			
ruby -v:	ruby 2.3.0dev (2015-01-09 trunk 49192) [x86_64-darwin14]	**Backport:**	2.0.0: UNKNOWN, 2.1: UNKNOWN, 2.2: UNKNOWN

Description

ref. [Bug #2545]

```
$ ruby -e 'a = [5,6,7,8,9,10]; a.keep_if { |x| break if x > 8; x >= 7 }; p a'
[7, 8, 7, 8, 9, 10]
$ ruby -e 'a = [5,6,7,8,9,10]; a.delete_if { |x| break if x > 8; x < 7 }; p a'
[7, 8, 9, 10]
```

I was expecting the above scripts to be same results.

Related issues:

Related to Ruby master - Bug #2545: Array#delete_if is borked if user calls '...	**Closed**	**01/02/2010**
Related to Ruby master - Feature #10714: Array#reject! nonlinear performance ...	**Closed**	**01/08/2015**

Associated revisions

Revision d2da3d04 - 01/10/2015 01:12 AM - nobu (Nobuyoshi Nakada)

array.c: keep consistency

- array.c (rb_ary_select_bang): keep the array consistent by removing unselected values soon. [ruby-dev:48805] [Bug #10722]

git-svn-id: svn+ssh://ci.ruby-lang.org/ruby/trunk@49196 b2dd03c8-39d4-4d8f-98ff-823fe69b080e

Revision 49196 - 01/10/2015 01:12 AM - nobu (Nobuyoshi Nakada)

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History

#1 - 01/09/2015 08:53 AM - wanabe (_ wanabe)

- Related to Bug #2545: Array#delete_if is borked if user calls 'break' added

#2 - 01/10/2015 01:12 AM - nobu (Nobuyoshi Nakada)

- Status changed from Open to Closed

- % Done changed from 0 to 100

Applied in changeset r49196.

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array.c: keep consistency

- array.c (rb_ary_select_bang): keep the array consistent by removing unselected values soon. [ruby-dev:48805] [Bug #10722]

#3 - 01/10/2015 04:08 AM - akr (Akira Tanaka)

r49196 causes nonlinear performance problem.

```
% ./ruby -v -e '
20.times {|i|
  a = [nil]*i*10000;
  t1 = Time.now
  a.keep_if { false }
  t2 = Time.now
  t = t2 - t1
  p ["*" * (t * 20).to_i , t]
}
'
ruby 2.3.0dev (2015-01-10 trunk 49203) [x86_64-linux]
["", 2.229e-06]
["", 0.01375934]
["*", 0.052734738]
["**", 0.117660945]
["****", 0.209578563]
["******", 0.33836772]
["*********", 0.48799636]
["************", 0.662050118]
["****************", 0.876530968]
["********************", 1.12094001]
["**************************", 1.402435918]
["********************************", 1.709450864]
["****************************************", 2.163054065]
["************************************************", 2.480529295]
["************************************************************", 3.010499657]
["********************************************************************", 3.535099527]
["****************************************************************************************", 4.389055292]
["************************************************************************************************", 5.05
3431719]
["********************************************************************************************************", 5.
190555455]
["****************************************************************************************************************
***", 5.59821402]
```

#4 - 01/10/2015 07:54 AM - akr (Akira Tanaka)

- Related to Feature #10714: Array#reject! nonlinear performance problem added

#5 - 01/10/2015 01:47 PM - akr (Akira Tanaka)

Apart from the performance problem, I feel following exmaple should show [7,8].

```
a = [5,6,7,8,9,10]; a.keep_if { |x| break if x > 8; x >= 7 }; p a
```

Because the method name is "keep_if", the method should keep only elements which the block returns true.
The block doesn't return true since "break" for 9 and 10.
So they should not be keeped.

This is similar (but reversed) to nagachika's comment for delete_if:
https://bugs.ruby-lang.org/issues/2545#note-6

#6 - 01/15/2015 02:02 AM - akr (Akira Tanaka)

r49255 fixes the performance problem.