Ruby master - Bug #10431
Can't sweep garbage object immediatly when GC_ENABLE_LAZY_SWEEP=0

10/27/2014 02:50 AM - imasahiro (Masahiro Ide)

<table>
<thead>
<tr>
<th>Status:</th>
<th>Closed</th>
<th>Backport:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Priority:</td>
<td>Normal</td>
<td>2.0.0: DONTNEED, 2.1: DONTNEED</td>
</tr>
<tr>
<td>Assignee:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Target version:</td>
<td>2.2.0</td>
<td></td>
</tr>
<tr>
<td>ruby -v:</td>
<td>ruby 2.2.0dev (2014-10-26 trunk 48073) [x86_64-darwin14]</td>
<td></td>
</tr>
</tbody>
</table>

**Description**

When I tried to compile ruby with GC_ENABLE_LAZY_SWEEP=0, Ruby does not sweep objects immediatly.

```
$ ./configure CFLAGS="-DGC_ENABLE_LAZY_SWEEP=0" && make miniruby
$ cat bug2.rb
GC.disable
10000.times { Object.new }
total_freed_objects1 = GC.stat[:total_freed_objects]
GC.enable
GC.start(full_mark: true, immediate_sweep: true)
total_freed_objects2 = GC.stat[:total_freed_objects]
puts "freed object : #{total_freed_objects2 - total_freed_objects1}"

$ ./miniruby -v
ruby 2.2.0dev (2014-10-26 trunk 48073) [x86_64-darwin14]
$ ./miniruby bug2.rb
freed object : 0
```

```
When I tried to compile ruby with GC_ENABLE_LAZY_SWEEP=0, Ruby does not sweep objects immediatly.
```

---

```
diff --git a/gc.c b/gc.c
index a27cc01..979e2e0 100644
--- a/gc.c
+++ b/gc.c
@@ -3314,9 +3314,8 @@ static void
    gb_heap_t *heap = heap_eden; /* lazy sweep only for eden */

    RB_HEAP_T
```

---

```
When I tried to compile ruby with GC_ENABLE_LAZY_SWEEP=0, Ruby does not sweep objects immediatly.
```

---

```
When I tried to compile ruby with GC_ENABLE_LAZY_SWEEP=0, Ruby does not sweep objects immediatly.
```
$ ./configure CFLAGS="-DGDISABLE_LAZY_SWEEP=0" && make miniruby
$ cat bug2.rb
GC.disable
10000.times { Object.new }
total_freed_objects1 = GC.stat[:total_freed_objects]
GC.enable
GC.start(full_mark: true, immediate_sweep: true)
total_freed_objects2 = GC.stat[:total_freed_objects]
puts "freed object : #{total_freed_objects2 - total_freed_objects1}"

$ ./miniruby -v
ruby 2.2.0dev (2014-10-26 trunk 48073) [x86_64-darwin14]
$ ./miniruby bug2.rb
freed object : 0

In addition, when I set GC_ENABLE_LAZY_SWEEP=0 and RGENGC_CHECK_MODE=1
ruby gives me assertion error like this:

$ ./miniruby -e '10000.times { Object.new }'
Assertion failed: (objspace->flags.stat == gc_stat_none), function gc_start, file ../gc.c, line 58
[1] 91336 abort ./miniruby -e '10000.times { Object.new }'

The following patch fix this problem.

diff --git a/gc.c b/gc.c
index a27cc01..979e2e0 100644
--- a/gc.c
+++ b/gc.c
@@ -3314,9 +3314,8 @@
 static void
 gc_sweep_rest(rb_objspace_t *objspace)
 {
-       rb_heap_t *heap = heap_eden; /* lazy sweep only for eden */
+       if ((heap)->sweep_pages != NULL) {
+           while ((heap)->sweep_pages != NULL) {
 gc_sweep_step(objspace, heap);
 }
 }

Associated revisions
Revision 202b4bbe - 10/27/2014 04:40 AM - nobu (Nobuyoshi Nakada)
gc.c: fix no lazy sweep mode
- gc.c (gc_sweep_rest): sweep rest pages regardless of whether lazy sweep is enabled or not. based on the patch by Masahiro Ide at [ruby-dev:48706]. [Bug #10431]

Revision 48150 - 10/27/2014 04:40 AM - nobu (Nobuyoshi Nakada)
gc.c: fix no lazy sweep mode
- gc.c (gc_sweep_rest): sweep rest pages regardless of whether lazy sweep is enabled or not. based on the patch by Masahiro Ide at [ruby-dev:48706]. [Bug #10431]
Revision 48150 - 10/27/2014 04:40 AM - nobu (Nobuyoshi Nakada)
gc.c: fix no lazy sweep mode

- gc.c (gc_sweep_rest): sweep rest pages regardless of whether lazy sweep is enabled or not. based on the patch by Masahiro Ide at [ruby-dev:48706]. [Bug #10431]

Revision 48150 - 10/27/2014 04:40 AM - nobu (Nobuyoshi Nakada)
gc.c: fix no lazy sweep mode

- gc.c (gc_sweep_rest): sweep rest pages regardless of whether lazy sweep is enabled or not. based on the patch by Masahiro Ide at [ruby-dev:48706]. [Bug #10431]

Revision 48150 - 10/27/2014 04:40 AM - nobu (Nobuyoshi Nakada)
gc.c: fix no lazy sweep mode

- gc.c (gc_sweep_rest): sweep rest pages regardless of whether lazy sweep is enabled or not. based on the patch by Masahiro Ide at [ruby-dev:48706]. [Bug #10431]

History

#1 - 10/27/2014 04:17 AM - nobu (Nobuyoshi Nakada)
- Description updated

r41510-is_lazy_sweeping()を使うようになり、その後r47444-is_lazy_sweeping()が変更されたときの見落としのようです。

#2 - 10/27/2014 04:18 AM - nobu (Nobuyoshi Nakada)
- Backport changed from 2.0.0: UNKNOWN, 2.1: UNKNOWN to 2.0.0: DONTNEED, 2.1: DONTNEED

#3 - 10/27/2014 04:40 AM - nobu (Nobuyoshi Nakada)
- Status changed from Open to Closed
- % Done changed from 0 to 100

Applied in changeset r48150.

gc.c: fix no lazy sweep mode

- gc.c (gc_sweep_rest): sweep rest pages regardless of whether lazy sweep is enabled or not. based on the patch by Masahiro Ide at [ruby-dev:48706]. [Bug #10431]