

## Ruby master - Bug #1885

### Proper comparison of recursive Struct & Range

08/05/2009 05:30 AM - marcandre (Marc-Andre Lafortune)

<b>Status:</b> Closed	
<b>Priority:</b> Normal	
<b>Assignee:</b>	
<b>Target version:</b>	
<b>ruby -v:</b> ruby 1.9.2dev (2009-08-05 trunk 24397) [i386-darwin9.7.0]	<b>Backport:</b>

#### Description

=begin

The following code freezes the latest ruby 1.9:

```
MyClass = Struct.new(:foo)
x = MyClass.new; x[:foo] = x
y = MyClass.new; y[:foo] = y
x == y # Loops forever (can not be interrupted)
```

Solution: `rb_struct_equal` & `rb_struct_eql` should handle recursion in a similar fashion as `Array` and `Hash` (i.e. by calling `rb_exec_recursive_paired` and returning `Qtrue` if recursion is detected). I could make a patch if needed.

Searching the source code for `rb_exec_recursive` revealed that `Range` is potentially recursive too (see `range_inspect`). The `==`, `eql?` and `===` methods do not call `rb_exec_recursive_paired` and are thus also potentially troublesome. To build a recursive `Range` is not trivial though; either some intermediate container class is needed or else some crazy thing like:

```
class CrazyRange < Range
  def initialize
    super(self..self)
  end

  def <=> (x)
    0 # Needed so CrazyRange can be the begin and end values of a range...
  end
end
```

```
CrazyRange.new == CrazyRange.new # Loops forever (can not be interrupted)
```

I'm not sure that it is worth modifying `==`, `eql?` and `===` to use `rb_exec_recursive_paired` and make them bulletproof.

Note that both `Struct#hash` and `Range#hash` face the same issue than `Array#hash` & `Hash#hash` (see issue [#1852](#))

```
=end
```

#### History

**#1 - 08/31/2009 04:17 AM - marcandre (Marc-Andre Lafortune)**

- File `struct_comparison.diff` added

```
=begin
Here is a patch for the latest 1.9.x that fixes comparison between recursive Struct. The right result is now returned, instead of looping forever. Note: this fixes Struct only; Range has not been patched. Rubyspecs have been updated.
=end
```

**#2 - 09/20/2009 11:17 AM - marcandre (Marc-Andre Lafortune)**

- Status changed from *Open* to *Closed*

- % Done changed from 0 to 100

```
=begin
Applied in changeset r25010.
=end
```

**Files**

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struct\_comparison.diff

1.94 KB

08/31/2009

marcandre (Marc-Andre Lafortune)