**Ruby master - Bug #18387**

**Backport of fix for #16798 to Ruby 2.6 introduced C99 syntax**

12/05/2021 03:51 AM - jeremyevans0 (Jeremy Evans)

<table>
<thead>
<tr>
<th>Status:</th>
<th>Closed</th>
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<tr>
<td>Priority:</td>
<td>Normal</td>
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<tr>
<td>Assignee:</td>
<td>usa (Usaku NAKAMURA)</td>
</tr>
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<td>Target version:</td>
<td>ruby -v:</td>
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<td>Backport:</td>
<td>2.6: REQUIRED, 2.7: DONTNEED, 3.0: DONTNEED</td>
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**Description**

Building Ruby 2.6.9 on OpenBSD/sparc64 fails with the following error:

```bash
c -O2 -pipe -fpic -D_FORTIFY_SOURCE=2 -fstack-protector-strong -fno-strict-overflow -fvisibility=hidden -DRUBY_EXPORT -DCANONICALIZATION_FOR_MATHN -DOPENSSL_NO_STATIC_ENGINE -I/usr/local/include -I. -I.ext/include/sparc64-openbsd -I./include -I. -I./enc/unicode/12.1.0 -o hash.o -c hash.c
```

hash.c:566: error: 'for' loop initial declaration used outside C99 mode

The system compiler in this case is gcc 4.2.1, which defaults to C89/C90. I believe Ruby didn't switch to C99 until Ruby 2.7, so I think this is a bug that should be fixed in the next release of Ruby 2.6.

This issue was introduced by [fe85a3d5271c4e3aeda42ec32e9c3f9ee02b6897](https://git.ruby-lang.org/cgit/ruby.git/commit/diff?id=fe85a3d5271c4e3aeda42ec32e9c3f9ee02b6897), a backport of [08529a61153e5c40f57a65272211357511d6e6db](https://git.ruby-lang.org/cgit/ruby.git/commit/diff?id=08529a61153e5c40f57a65272211357511d6e6db).

This patch should hopefully fix it (untested):

```diff
diff --git a/hash.c b/hash.c
index 38440f4b96..65a0419af3 100644
--- a/hash.c
+++ b/hash.c
@@ -5655,10 +5655,10 @@ env_invert(void)
     static void
     keylist_delete(VALUE keys, VALUE key)
     {
-        long keylen, elen;
+        long keylen, elen, i;
         const char *keyptr, *eptr;
         RSTRING_GETMEM(key, keyptr, keylen);
-        for (long i=0; i<RARRAY_LEN(keys); i++) {
+        for (i=0; i<RARRAY_LEN(keys); i++) {
             VALUE e = RARRAY_AREF(keys, i);
             RSTRING_GETMEM(e, eptr, elen);
             if (elen != keylen) continue;
```

I'm not sure if this is the only C99 issue introduced in Ruby 2.6.9, so other changes between 2.6.8 and 2.6.9 should be audited to ensure they do not introduce C99 syntax.

**History**

#1 - 12/05/2021 05:17 PM - usa (Usaku NAKAMURA)

It's unintentionally, so I'll fix it later. thx!