

## Ruby master - Feature #973

### EncDet again

01/03/2009 07:22 PM - yugui (Yuki Sonoda)

<b>Status:</b>	Rejected
<b>Priority:</b>	Normal
<b>Assignee:</b>	matz (Yukihiro Matsumoto)
<b>Target version:</b>	2.0.0
<b>Description</b>	
=begin Yugui	
ZnZ ( <a href="http://znz.s1.xrea.com/t/?date=20090102#c01">http://znz.s1.xrea.com/t/?date=20090102#c01</a> ) EncDet [ruby-dev:33628]	
RDoc ERB IRB encdet.rb <-> encoding/detector.rb io/encdet.rb IO::magic_open(*args) -> IO::open -- Yugui <a href="mailto:yugui@yugui.jp">yugui@yugui.jp</a> <a href="http://yugui.jp">http://yugui.jp</a> Dump =end	

### History

#### #1 - 02/02/2009 01:02 PM - ko1 (Koichi Sasada)

- Assignee set to matz (Yukihiro Matsumoto)
- Priority changed from 3 to Normal
- Target version set to 1.9.2

=begin

=end

#### #2 - 02/02/2009 01:08 PM - matz (Yukihiro Matsumoto)

=begin  
Dump

In message "Re: [ruby-dev:37679] [FEATURE:trunk] EncDet again"  
on Sat, 3 Jan 2009 19:21:37 +0900, "Yugui (Yuki Sonoda)" [yugui@yugui.jp](mailto:yugui@yugui.jp) writes:

io/encdet.rb

enc encoding(det) detect  
IO::magic\_open(\*args) -> IO::open

IO::magic magical

Dump

=end

**#3 - 02/03/2009 04:08 AM - naruse (Yui NARUSE)**

=begin  
□□□□□

Yukihiro Matsumoto wrote:

□□□□ □□□□□□

In message "Re: [ruby-dev:37679] [FEATURE:trunk] EncDet again"  
on Sat, 3 Jan 2009 19:21:37 +0900, "Yugui (Yuki Sonoda)" [yugui@yugui.jp](mailto:yugui@yugui.jp) writes:

```
| IO□□□□□□□□□□□□□□□□□□□□□□  
| io/encdet.rb
```

```
enc□encoding□□□□□□□□(□□□□)□□□□□□□□det□detect  
□□□□□□□□□□□□□□□□□□□□□□□□  
□□□□□□□□□□□□□□
```

```
□□ prelude □□□□□□□□□□□□□  
□□□□□□□□□□□□□□□□□□□□□□
```

```
| IO::magic_open(*args) -> □□ IO::open□□□□□□
```

```
□□ magic□□magical□□□□□□□□□□□□□□□□□  
□□□□□□□□□□□□
```

□□ IO::detect\_open □□□□□

--

NARUSE, Yui [naruse@airemix.jp](mailto:naruse@airemix.jp)

=end

**#4 - 02/03/2009 08:51 AM - ko1 (Koichi Sasada)**

=begin  
□□□□□□

NARUSE, Yui wrote::

```
□□ prelude □□□□□□□□□□□□□  
□□□□□□□□□□□□□□□□□□□□□□
```

□□□□□□□□□□□□□□

--

// SASADA Koichi at atdot dot net

=end

**#5 - 11/26/2009 12:19 AM - znz (Kazuhiro NISHIYAMA)**

=begin  
Python□□chardet□□□□□□□□□□□□□□□□□□□□□□  
encdet□□□□□□□□□□□□□□□□□□□□□□?

<http://chardet.feedparser.org/>

=end

**#6 - 11/26/2009 12:30 AM - kou (Kouhei Sutou)**

=begin  
□□□□□

In

"[ruby-dev:39775] [Feature #973] EncDet again" on Thu, 26 Nov 2009 00:19:42 +0900,  
Kazuhiro NISHIYAMA [redmine@ruby-lang.org](mailto:redmine@ruby-lang.org) wrote:

Python□□chardet□□□□□□□□□□□□□□□□□□□□□□

encdet

<http://chardet.feedparser.org/>

=end

#7 - 11/26/2009 12:59 AM - naruse (Yui NARUSE)

=begin
chardet
det

rdoc erb EncDet

yugui

encdet
=end

#8 - 11/26/2009 02:05 AM - knu (Akinori MUSHA)

=begin
encoding

Encoding
encoding/detect encoding/\* require
autoload

Encoding::Detector
API
=end

#9 - 11/26/2009 02:27 AM - naruse (Yui NARUSE)

=begin
encoding

encoding.rb

Encoding::Detector

Java Ruby

API
Encoding

open detect EncDet
=end

#10 - 11/26/2009 02:50 AM - kou (Kouhei Sutou)

=begin

In
[ruby-dev:39781] [Feature #973] EncDet again" on Thu, 26 Nov 2009 02:27:32 +0900,
Yui NARUSE redmine@ruby-lang.org wrote:

Encoding::Detector

Java Ruby

[http://doc.okkez.net/static/192/library/\\_builtin.html](http://doc.okkez.net/static/192/library/_builtin.html)

Java

=end

#11 - 11/26/2009 03:38 AM - knu (Akinori MUSHA)

=begin

encoding

encoding.rb

Encoding::Detector

Encoding::Detector

Java Ruby

API

API Encoding

API

API issue

open detect EncDet

IO::detect\_open detect Encoding

[ruby-dev:33628] 2011.9 trunk

NKF Nokogiri

=end

#12 - 11/26/2009 03:46 AM - naruse (Yui NARUSE)

=begin

Kouhei Sutou wrote:

Encoding::Detector Java Ruby

[http://doc.okkez.net/static/192/library/\\_builtin.html](http://doc.okkez.net/static/192/library/_builtin.html)

BasicObject, Encoding::Converter, File::Constants

ARGF, Bignum, Dir, ENV, Fixnum, GC, Hash, Proc, Regexp

Java (=) Ruby

Java (=) Ruby

Ruby

NARUSE, Yui [naruse@airemix.jp](mailto:naruse@airemix.jp)

=end

#13 - 11/26/2009 04:02 AM - naruse (Yui NARUSE)

=begin

Akinori MUSHA wrote:

encoding encoding.rb

encoding

Ruby IANA Charset Shift JIS Windows-31J Ruby Windows

Encoding magic comment EncDet Encoding IANA Charset Ruby

Encoding

API Encoding

API issue

open detect EncDet

```
IO::detect_open
detect
Encoding
```

Encoding

```
NKF
Nokogiri
```

Nokogiri IANA Charset EncDet charset=Shift\_JIS

```
IANA
Ruby
```

--
NARUSE, Yui [naruse@airemix.jp](mailto:naruse@airemix.jp)

=end

#14 - 11/27/2009 10:44 PM - kou (Kouhei Sutou)

=begin

#

In [4B0D7B56.9000002@airemix.jp](mailto:4B0D7B56.9000002@airemix.jp)
"[ruby-dev:39784] Re: [Feature #973] EncDet again" on Thu, 26 Nov 2009 03:45:54 +0900,
"NARUSE, Yui" [naruse@airemix.jp](mailto:naruse@airemix.jp) wrote:

```
http://doc.okkez.net/static/192/library/\_builtin.html
```

```
BasicObject, Encoding::Converter, File::Constants
```

```
ARGF, Bignum, Dir, ENV, Fixnum, GC, Hash, Proc, Regexp
```

```
Bignum, Fixnum, GC(!), Hash, (Proc,) Regexp
ARGF
```

```
File,
Thread(?), Time(?), LoadError
```

```
Det
```

```
Ruby
```

=end

#15 - 11/28/2009 12:35 AM - naruse (Yui NARUSE)

=begin  
Kouhei Sutou wrote:

```

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXXDetXXXXXXXXXXXX
```

```

XXXXXXXXXXXX EncDetect XXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXXX
```

```

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXXXXXXXXXXX
```

[ruby-dev:37679] XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

```

XXXXXXXXXXXXXXXXXXXXRDocXXXXERBXXXXIRBXXXXXXXXXXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
```

--  
NARUSE, Yui [naruse@airemix.jp](mailto:naruse@airemix.jp)

=end

#16 - 11/28/2009 10:26 PM - kou (Kouhei Sutou)

=begin  
In [4B0FF194.2030809@airemix.jp](mailto:4B0FF194.2030809@airemix.jp)  
"[ruby-dev:39804] Re: [Feature #973] EncDet again" on Sat, 28 Nov 2009 00:34:59 +0900,  
"NARUSE, Yui" [naruse@airemix.jp](mailto:naruse@airemix.jp) wrote:

Kouhei Sutou wrote:

```

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXXDetXXXXXXXXXXXX
```

```

XXXXXXXXXXXX EncDetect XXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXXX
```

```

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXXXXXXXXXXX
```

[ruby-dev:37679] XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

```

XXXXXXXXXXXXXXXXXXXXRDocXXXXERBXXXXIRBXXXXXXXXXXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
```

```

XXXXXXXX3XXXXXXXXXXXXXXXXXXXXEncXXXXXXXXXXXXXXXXXXXXXXXXXXXX
```

=end

#17 - 12/04/2009 09:16 PM - yugui (Yuki Sonoda)

=begin  
2009/11/28 Kouhei Sutou [kou@cozmixng.org](mailto:kou@cozmixng.org):

```

XXXXXXXX3XXXXXXXXXXXXXXXXXXXXEncXXXXXXXXXXXXXXXXXXXXXXXXXXXX
```

```

EncodingXXXXXXXXXXXXXXXXXXXXEncXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXencoding.rbXXXXXXXXXXXXXXXXXXXXEncoding::XXXXXXXXXXXXXXXXXXXXXXX
```

```

XXXXXXXXXXXXIRCXXXXXXXXXXXXXXXXXXXXEncDetXXXXXXXXXXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXXEncDetXXXXXXXXXXXXXXXXXXXXBOMXXXXXXXXXXXXXXXXXXXXBOMXXXXFile.openXXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXFile.openXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
```

```
File.open(path, "r:magic-comment")
File.open(path, "r:auto")
```

```
--
Yuki Sonoda (Yugui)
yugui@yugui.jp
http://yugui.jp
```

=end

#18 - 03/17/2010 10:46 PM - mame (Yusuke Endoh)

```
=begin
```

```
EncDet
Yugui
```

```
File.open
```

```
File.open(path, "r:magic-comment")
File.open(path, "r:auto")
```

1)

- 1) EncDet
2) File.open
3) 1.9.2

2)

```
2
```

```
3 #3
```

```
#2
1.9.2
```

```
--
Yusuke ENDOH mame@tsq.ne.jp
=end
```

#19 - 03/18/2010 07:06 AM - nobu (Nobuyoshi Nakada)

```
=begin
```

```
At Wed, 17 Mar 2010 22:46:43 +0900,
Yusuke Endoh wrote in [ruby-dev:40687]:
```

```
2) File.open
```

```
#2
1.9.2
```

3)

```
$.ruby -Eus-ascii -e 'ARGV.each{|file|open(file, "r:magic-comment"){|f|p [f.path, f.external_encoding]}}' version.h lib/rexml/rexml.rb
lib/rubygems/package.rb
["version.h", #Encoding:US-ASCII]
["lib/rexml/rexml.rb", #Encoding:UTF-8]
["lib/rubygems/package.rb", #Encoding:ISO-8859-1]
```

```
diff --git c/include/ruby/io.h i/include/ruby/io.h
index e05a0f5..f067831 100644
--- c/include/ruby/io.h
```



```

+++ i/include/ruby/io.h
@@ -96,4 +96,5 @@ typedef struct rb_io_t {
/* #define FMODE_PREP          0x00010000 */
#define FMODE_SETENC_BY_BOM    0x00100000
+#define FMODE_SETENC_BY_MAGIC_COMMENT 0x00200000

#define GetOpenFile(obj,fp) rb_io_check_closed((fp) = RFILE(rb_io_taint_check(obj)))->fptr)
diff --git c/io.c i/io.c
index 60afd6c..60761f0 100644
--- c/io.c
+++ i/io.c
@@ -4125,4 +4125,6 @@ rb_io_ext_int_to_encs(rb_encoding *ext, rb_encoding *intern, rb_encoding **enc,
}

+#define is_magic_comment(str) (STRCASECMP(str, "magic-comment") == 0)
+
static void
parse_mode_enc(const char *estr, rb_encoding **enc_p, rb_encoding **enc2_p)
@@ -4166,5 +4168,5 @@ parse_mode_enc(const char *estr, rb_encoding **enc_p, rb_encoding **enc2_p)
ext_enc = rb_enc_from_index(idx);
else {

    • if (idx != -2)
    • if (idx != -2 && !is_magic_comment(estr)) rb_warn("Unsupported encoding %s ignored", estr); ext_enc = NULL; @@ -4337,6 +4339,11 @@
      rb_io_extract_modeenc(VALUE *vmode_p, VALUE *vperm_p, VALUE ophash, has_enc = 1; parse_mode_enc(p+1, &enc, &enc2);
    • if (io_ename_bom_p(p+1, 0))
    • if (io_ename_bom_p(p+1, 0)) { fmode |= FMODE_SETENC_BY_BOM;
    • p += 4;
    • }
    • if (is_magic_comment(p+1)) {
    • fmode |= FMODE_SETENC_BY_BOM | FMODE_SETENC_BY_MAGIC_COMMENT;
    • } } else { @@ -4605,10 +4612,44 @@ io_strip_bom(VALUE io) }

-static void
-io_set_encoding_by_bom(VALUE io)
+int rb_magic_comment_encoding(const char *str, long len);
+
+static int
+io_parse_encoding_comment(VALUE io)
{

    • int idx = io_strip_bom(io);
    • VALUE line = rb_io_gets(io);
    • char *s;
    • long n;
    • if (NIL_P(line)) return 0;
    • s = RSTRING_PTR(line);
    • n = RSTRING_LEN(line);
    • if (n >= 2 && s[0] == '#' && s[1] == '!') {
    • VALUE shbang = line;
    • line = rb_io_gets(io);
    • if (NIL_P(line)) {
    • rb_io_ungetbyte(io, shbang);
    • return 0;
    • }
    • rb_io_ungetbyte(io, line);
    • s = RSTRING_PTR(line);
    • n = RSTRING_LEN(line);
    • line = shbang;
    • }
    • rb_io_ungetbyte(io, line);
    • while (n > 0 && (*s == ' ' || *s == '\t')) {
    • s++;
    • n--;
    • }
    • if (n <= 0 || *s != '#') return 0;

    • return rb_magic_comment_encoding(s, n);
    +}

    • if (idx) {
    +static void
    +io_guess_encoding(VALUE io, int fmode)
    +{

```

- int idx;
- if (((fmode & FMODE\_SETENC\_BY\_BOM) &&
- (idx = io\_strip\_bom(io)) != 0) ||
- ((fmode & FMODE\_SETENC\_BY\_MAGIC\_COMMENT) &&
- (idx = io\_parse\_encoding\_comment(io)) != 0) {
 

```
rb_io_t *fptr;
GetOpenFile(io, fptr);
@@ -4638,5 +4679,5 @@ rb_file_open_generic(VALUE io, VALUE filename, int oflags, int fmode, convconfig
fptr->fd = rb_sysopen(fptr->pathv, oflags, perm);
io_check_tty(fptr);
```
- if (fmode & FMODE\_SETENC\_BY\_BOM) io\_set\_encoding\_by\_bom(io);
- io\_guess\_encoding(io, fmode);
- return io;
- @@ -6396,5 +6437,5 @@ rb\_io\_initialize(int argc, VALUE \*argv, VALUE io)
fp->stdio\_file = stderr;
- if (fmode & FMODE\_SETENC\_BY\_BOM) io\_set\_encoding\_by\_bom(io);
- io\_guess\_encoding(io, fmode);
 

```
return io;
}
diff --git c/parse.y i/parse.y
index 340a825..a42c8f6 100644
--- c/parse.y
+++ i/parse.y
@@ -6248,13 +6248,15 @@ magic_comment_marker(const char *str, long len)
}
```

```
+typedef int rb_magic_comment_func(const char *name, long nlen, const char *value, long vlen, void *arg);
```

```
+
static int
-parser_magic_comment(struct parser_params *parser, const char *str, long len)
+parse_magic_comment(const char *str, long len, rb_magic_comment_func *func, void *arg)
{
```

- VALUE name = 0, val = 0;
- VALUE name = 0; const char \*beg, \*end, \*vbeg, \*vend; #define str\_copy(\_s, \_p, \_n) (((\_s) \ ? (rb\_str\_resize((\_s), (\_n)), \ MEMCPY(RSTRING\_PTR(\_s), (\_p), char, (\_n)), (\_s)) \
- : ((\_s) = STR\_NEW((\_p), (\_n))))

- : ((\_s) = rb\_str\_new((\_p), (\_n))))

```
if (len <= 7) return FALSE;
```

```
@@ -6266,7 +6268,4 @@ parser_magic_comment(struct parser_params parser, const char *str, long len)
```

```
/%r*([s\W+:;]+)s*:s*(\W(?:\.[\W]*|))*/
```

```
while (len > 0) {
```

```
-#ifndef RIPPER
```

- const struct magic\_comment \*p = magic\_comments;

```
-#endif
```

```
char *s;
```

```
int i;
```

```
@@ -6321,24 +6320,68 @@ parser_magic_comment(struct parser_params *parser, const char *str, long len)
```

```
if (s[i] == '-') s[i] = '_';
```

```
}
```

- if ((\*func)(s, n, vbeg, vend - vbeg, arg)) break;

```
• }
```

```
+
```

- return TRUE;

```
+
```

```
+
```

```
+static int
```

```
+magic_comment_i(const char *name, long nlen, const char *value, long vlen, void *arg)
```

```

+{
• struct parser_params *parser = arg;
  #ifndef RIPPER
• do {
• ████████████████████████████████████████
• ████████████████████
• ████████████████████
• ████████████████████████████████████████
• ██████
• ████████████████████
• ████████████████████████████████████████
• ██████████
• const struct magic_comment *p = magic_comments;
• do {
• if (STRNCASECMP(p->name, name, nlen) == 0) {
• ██████████
• ████████████████████
• ████████████████████████████████████████
  }
• } while (++p < magic_comments + numberof(magic_comments));
• ████████████████████████████████████████
• ████████████████████████████████████████
• ████████████████████
• ████████████████████████████████████████
• ██████████
• }
• } while (++p < magic_comments + numberof(magic_comments));
  #else
• dispatch2(magic_comment, name, val);
• dispatch2(magic_comment, name, val);
  #endif
• }
• return FALSE;
  +}
  +
+static int
+parser_magic_comment(struct parser_params *parser, const char *str, long len)
+{
• return parse_magic_comment(str, len, magic_comment_i, (void *)parser);
  +}
  +
+static int
+find_magic_comment_encoding(const char *name, long nlen, const char *value, long vlen, void *arg)
+{
• char *val;

```

- switch (nlen) {
- [REDACTED]
- if (STRNCASECMP("en", name, 2) != 0) return FALSE;
- name += 2;
- [REDACTED]
- if (STRNCASECMP("coding", name, 6) != 0) return FALSE;
- }
- vlen = parser\_encode\_length(0, value, vlen);
- memcpy(val = ALLOCA\_N(char, vlen + 1), value, vlen);
- val[vlen] = '\0';
- \*(int \*)arg = rb\_enc\_find\_index(val);  
return TRUE;  
}

```
+int
+rb_magic_comment_encoding(const char *str, long len)
+{
  • int idx = 0;
  • if (!parse_magic_comment(str, len, find_magic_comment_encoding, &idx)) return 0;
  • return idx; +} + static void set_file_encoding(struct parser_params *parser, const char *str, const char *send)
```

```
--
--- Bug
--- Bug
  
```

```
=end
```

**#20 - 03/20/2010 12:55 AM - mame (Yusuke Endoh)**

```
=begin
  
```

2010年3月18日 7:05 Nobuyoshi Nakada [nobu@ruby-lang.org](mailto:nobu@ruby-lang.org):

At Wed, 17 Mar 2010 22:46:43 +0900,  
Yusuke Endoh wrote in [ruby-dev:40687]:

? 2) File.open [REDACTED]

```
#2 [REDACTED]
[REDACTED] → 1.9.2 [REDACTED]
[REDACTED]
```

```
[REDACTED]
```

```
[REDACTED] #2 [REDACTED]
```

```
[REDACTED]
[REDACTED]
```

```
[REDACTED]_3 [REDACTED]
[REDACTED]
```

```
--
Yusuke ENDOH mame@tsg.ne.jp
```

```
=end
```

**#21 - 03/20/2010 04:01 PM - yugui (Yuki Sonoda)**

=begin  
2010/3/20 Yusuke ENDOH [mame@tsg.ne.jp](mailto:mame@tsg.ne.jp):  
 3  
 3  
  
 3  
redmine feature

--  
Yuki Sonoda (Yugui)  
[yugui@yugui.jp](mailto:yugui@yugui.jp)  
<http://yugui.jp>

=end

**#22 - 03/22/2010 12:11 PM - mame (Yusuke Endoh)**

- Target version changed from 1.9.2 to 2.0.0

=begin  
 3

2010 3 20 16:00 Yugui [yugui@yugui.jp](mailto:yugui@yugui.jp):

2010/3/20 Yusuke ENDOH [mame@tsg.ne.jp](mailto:mame@tsg.ne.jp):

3  
 3

3  
redmine feature

target 1.9.x

3 (RDoc, ERB, IRB)  
[ruby-dev:39779]

rdoc erb EncDet

yugui

--  
Yusuke ENDOH [mame@tsg.ne.jp](mailto:mame@tsg.ne.jp)  
=end

**#23 - 03/22/2010 07:34 PM - yugui (Yuki Sonoda)**

=begin  
2010/3/22 Yusuke Endoh [redmine@ruby-lang.org](mailto:redmine@ruby-lang.org):

yugui

(2)  
 3

--  
Yuki Sonoda (Yugui)  
[yugui@yugui.jp](mailto:yugui@yugui.jp)  
<http://yugui.jp>

=end

#24 - 09/14/2010 04:45 PM - shyouhei (Shyouhei Urabe)

- Status changed from Open to Assigned

=begin

=end

#25 - 02/08/2012 05:51 AM - kosaki (Motohiro KOSAKI)

File.open

File.open(path, "r:magic-comment")

File.open(path, "r:auto")

reject

#26 - 02/13/2012 09:26 PM - mame (Yusuke Endoh)

- Status changed from Assigned to Rejected

reject

feature

-> feature

-> feature

(

reject

rdoc erb EncDet

2

API RDoc ERB IRB

- RDoc
  - magic comment encoding
- ERB
  - magic comment encoding
  - magic comment
  - ASCII-8BIT
- IRB
  - magic comment encoding IO set\_encoding

API

IRB

**grep**

RDoc ERB (encoding  
)

reopen

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