

Ruby master - Bug #11582

On Solaris, Rational#** returns -Infinity for Rational(0) when passed a negative Float

10/11/2015 08:59 PM - Eregon (Benoit Daloz)

Status: Open	
Priority: Normal	
Assignee:	
Target version:	
ruby -v:	Backport: 2.0.0: UNKNOWN, 2.1: UNKNOWN, 2.2: UNKNOWN

Description

For instance,

```
Rational(0, 1) ** -1.0
=> +Infinity on most platforms, -Infinity on Solaris by default.
```

The Rational is implicitly converted to the Float value 0.0, and the libm function pow(0.0, -1.0) is called.

Should this kind of behavior be made consistent by Ruby or should we accept this as dependent on the libm/libc used?

They are likely other edges cases for pow() which might differ, and I think in general Ruby should try to unify these cases so the behavior is consistent across platforms at least for arithmetic.

For more details, please see <https://github.com/ruby/rubyspec/issues/134> reported by ngoto.

History

#1 - 10/11/2015 11:25 PM - nobu (Nobuyoshi Nakada)

Does 0.0 ** -1 return -Infinity too?
It isn't a problem?

#2 - 10/13/2015 03:12 AM - ngoto (Naohisa Goto)

Does 0.0 ** -1 return -Infinity too?

Yes, with default compiler option.

On Solaris, the 0.0 ** -1 could return 3 different values depending on compile-time options: 0, -Infinity, +Infinity.

See below for list of corner-case variations of numerical calculations.

http://docs.oracle.com/cd/E37069_01/html/E39019/z4000ac610479.html

It isn't a problem?

I don't know.