Ruby master - Feature #10425

A predicate method to tell if a number is near another

10/26/2014 12:38 AM - sawa (Tsuyoshi Sawada)

Status:	Open
Priority:	Normal
Assignee:	
Target version:	

Description

A method near? like the following would be useful.

```
class Numeric
    def near? other, delta: Float::EPSILON
        (other.to_f - to_f).abs <= delta.to_f
    end
end

class Time
    def near? other, delta: Float::EPSILON
        to_f.near?(other.to_f, delta: delta)
    end
end
```

It can be used to check errors, or whether something is around something.

```
23.24324.near?(23.23, delta: 0.5) # => true
t1 = t2 = Time.now
t3 = Time.now
t1.near?(t2) #=> true
t1.near?(t3) #=> false
5.near?(3, delta: 1) #=> true
```

Some testing frameworks have something similar to this, but I think this is an elementary concept that Ruby should support at it core.

Related issues:

Related to Ruby master - Feature #15811: Propsing new method for comparing eq...	**Open**

History

#1 - 10/26/2014 12:40 AM - sawa (Tsuyoshi Sawada)

The definition above is just to illustrate the functions. There may be a better implementation. Especially, an appropriate error message should be given when an inappropriate argument is given.

error might be a better name to replace the named parameter delta. I am not sure.

#2 - 10/26/2014 01:47 AM - duerst (Martin Dürst)

Such a predicate would indeed be convenient. But sometimes, one doesn't want to compare with an absolute epsilon, but relatively, e.g. like so:

((other.abs.to_f + abs.to_f) / (other.to_f - to_f).abs) <= ????

#3 - 04/30/2019 12:33 PM - mame (Yusuke Endoh)

- Related to Feature #15811: Propsing new method for comparing equality of 2 (float) numbers relatively added