
Subject: Re: OT: Can someone explain this?

Posted by [=HT=T-Bird](#) on Fri, 23 Dec 2005 19:30:25 GMT

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Mathematics assumes that numbers have infinite precision. However, that's not possible with computers that use floating-point arithmetic, so you get round-off that gives you really tiny numbers instead of 0. Example of the WRONG way to do things (in C++):

```
float f1 = 2.0 - 1.0;
float f2 = 1.0;
if (f1 == f2)
    std::cout << "this might not happen";
else
    std::cout << "oops...floating point round-off";
```

(I still haven't figured out how to insert tabs in forum posts)
and the RIGHT way:

```
float f1 = 2.0 - 1.0;
float f2 = 1.0;
if (std::fabs (f1 - f2) < std::numeric_limits <float>::epsilon ())
    std::cout << "this works";
```

I hope this helps
