On Fri, 21 May 2004, Nuno Oliveira wrote:

> I looking at the Chapter 5 of the Bulding Aplication.
>
> It says, for float variables that it's a 32 bits number in the range of
> +/-10^38 withe approximately six or seven decimal places of significance.
> What I'm missing here? How can a number 32 bit number range between -10^38
> and +10^38?

Read chapter 1 of any decent introductory numerical analysis text and then
"What Every Computer Scientist Should Know About Floating-Point
Arithmetic" by D. Goldberg, ACM Computing Surveys, Vol 23, 1991, p5-48)
and reprinted in Sun's online manuals. See links on:

   http://cch.loria.fr/documentation/IEEE754/

While it is true that many people do get by without understanding
f.p. arithmetic, there are also many examples of calculations going astray
due to failure to recognize situations where the difference between
f.p. and real numbers matters. It is becoming more important to
understand the material in Goldberg's paper because newer hardware
speedups (speculative execution, merged operations, parallel
processing) tend to make it harder to diagnose arithmetic problems.

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