

Re: Binary degrees?

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"Ruud Lustig" <rlustig@casema.nl> wrote in message news:<6Yydnm6LNXR36_cRVnyuw@casema.nl>...

- > *I have a question which keeps me busy for some time. Well, for math experts*
- > *like you my question is just a piece of cake.*
- >
- > *As we all know, we use Radians, Degrees and Grad to express the size of*
- > *angles.*
- > *In computers we use hexadecimal bytes which does not 'fit' these units at*
- > *all..*
- >
- > *Now my question; wouldn't it be easier to use in computers a sort of Binary*
- > *Degree (BDeg) in which, let's say $2\pi = 255$ or $X'FF$ BDeg.*
- > *Would this make sin, cos etc. calculations easier using tablesearches,*
- > *Taylor expansions or whatever?*

I have to disagree with the other responses. I've used exactly this sort of scheme in real-time signal processing applications that used integer arithmetic for speed.

- > *I am specially interested in this in 8-bit microcontroller applications. I*
- > *have the feeling that this would make things easier. But does it really?*

Depends on how expensive floating point operations are, and how often they have to be done.

Designing just-precise-enough integer arithmetic involves a large investment in programming time, but can give you huge time savings if that is an issues. When I was doing this work, it was. I remember poring over code trying to shave a couple of microseconds off assembly-language loops.

– Randy