Subject: Set Precision???????????
Posted by akk on Mon, 14 Jun 1999 07:00:00 GMT
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Hi All

I'd like create a varible which always holds numbers out to 6 places passed the decimal point, and 4 numbers before the decimal point (e.g. 1999.123456). I tried double
precision but this seems to only hold 8 digits total for decimal numbers. However I would like to create a variable corresonding to a fraction of a Year (e.g 1995.123456). I have not been able to find a procedure allowing me to create 10 digit decimal number , without the number being rounded off to 8 digits.
Does anyone know of a way to declare a variable to hold a 10 digit decimal number?

- Thanks in advance

Subject: Re: Set Precision???????????
Posted by wbiagiot on Tue, 15 Jun 1999 07:00:00 GMT
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> However I would like to create a variable corresonding to a fraction of a
> Year (e.g 1995.123456). I have not been able to find a procedure allowing
> me to create 10 digit decimal number , without the number being rounded
> off to 8 digits.
> Does anyone know of a way to declare a variable to hold a 10 digit
> decimal number?

The other replies were on the money with the correct answer, but also consider this: there are only 365 days in a year. I'm pretty sure you could get that resolute with even a "float" (4 byte decimal).

- Bill B.

Subject: Re: Set Precision???????????
Posted by Martin Schultz on Wed, 16 Jun 1999 07:00:00 GMT
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wbiagiot@suffolk.lib.ny.us wrote:
>
>> However I would like to create a variable corresonding to a fraction
> of a
>> Year (e.g 1995.123456). I have not been able to find a procedure
> allowing
>> me to create 10 digit decimal number , without the number being
> rounded
>> off to 8 digits.
>> Does anyone know of a way to declare a variable to hold a 10 digit
>> decimal number?
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> The other replies were on the money with the correct answer, but also
> consider this: there are only 365 days in a year. I'm pretty sure you
> could get that resolute with even a "float" (4 byte decimal).
>
> - Bill B.
>

Bill,

you had better not hit the send button for this message!! A reply like yours is what caused the Y2K bug (admitted: it has created many jobs). Sure, if you are only after "daily" resolution, then a simple float is fine, but as soon as you want to extract seconds, you get terrible roundoff errors. And believe it or not: there are datasets in 1-second resolution (or finer) that are stored with the day of the year.

More systematically:
1 year ~ 3e7 secs ~ 3e10 msecs ~ 3e13 usecs
i.e. with 7 digits you can get to about 10 secs, with 15 digits you achieve better than microsecond resolution.

Regards,
Martin

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Subject: Re: Set Precision???????????
Posted by wbiagiot on Thu, 17 Jun 1999 07:00:00 GMT
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Sure, if you are only after "daily" resolution, then a simple
> float is fine, but as soon as you want to extract seconds, you get
> terrible roundoff errors. And believe it or not: there are datasets in
> 1-second resolution (or finer) that are stored with the day of the
year.

Martin,

This is true. I only took the original message at face value. As for the Y2K problem, if the year was numerically stored, even minimally, as a byte, you would still have at least 256 instances. The problem was not one of resolution, but representation, I believe. ASCII characters.

BTW, for those Y2K trivia buffs with Sun workstations, I read somewhere that there's a Y-203x problem coming. Something about the internal counter (32 bits?) reaching max count in the year 203x. Also, the current problem wasn't an original one. Back in the sixties, one character was allocated for the year.

Cheers,

Bill B.