Subject: Re: counting bits
Posted by Craig Markwardt on Thu, 20 Feb 2003 05:31:32 GMT
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JD Smith <jdsmith@as.arizona.edu> writes:
>
> Here's a reasonably fast implementation of your proposed method for
> arrays of unsigned longs, to count the highest bit (or rather, the
> number of leading 0 bits).
>
> function leading_zeroes_reg,num
> num=[num]
> zeroes=make_array(/BYTE,DIMENSION=size(num,/DIMENSIONS),VALU E=255b)
> for i=0,31 do begin
> shft=ishft(num,-(31-i)) AND 1
> zeroes=(zeroes ne 255b)*zeroes+(zeroes eq 255b)* $
> ((shft eq 1)*i+(shft ne 1)*255b)
> endfor
> return, (zeroes eq 255b)*32+(zeroes ne 255b)*zeroes
> end

Thanks. Thinking about it further, one could probably do a pretty fast look up
table on a byte-by-byte basis, similar to the counting-bits lookup
that you presented initially.

Craig

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Craig B. Markwardt, Ph.D. EMAIL: craigmnet@cow.physics.wisc.edu
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