

Re: [CHALLENGE] finding rightmost zero bit

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Source: <http://coding.derkeiler.com/Archive/Fortran/comp.lang.fortran/2005-08/msg01164.html>

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 - *Date:* Wed, 31 Aug 2005 06:54:11 +0000 (UTC)
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On 2005-08-30, Dick Hendrickson <dick.hendrickson@xxxxxxx> wrote:

```
>  
> How about this for the fastest untested one-liner ;>  
>  
> pos = count(iand(not(n),ieor(n,n+1))> [0,1,2,4,8,16,32,64] )  
>  
> It seemed to work for the numbers up to 32 that I could  
> mentally convert into binary. And, it's not only easily  
> extensible, but it's obvious how it works!
```

To get the syntax right, i changed this to:

```
pos = count( iand(not(n), ieor(n,n+1)) > (/ 0,1,2,4,8,16,32,64 /) )
```

and it appears to give wrong results and bad timings, sorry ;—)

```
bartv@vonneumann:~/fortran$ ./time_findpos  
huge(n) is 2147483647.  
Enter first number: 1  
Enter last number: 147483647  
Total bits counted: 73741824  
Brooks_WRONG's method did it from 1 to 147483647 in 1.21 seconds.  
Total bits counted: 294967286  
Bart1's method did it from 1 to 147483647 in 1.85 seconds.  
Total bits counted: 294967286  
Bart2's method did it from 1 to 147483647 in 1.84 seconds.  
Total bits counted: 294967286  
Bart3's method did it from 1 to 147483647 in 1.90 seconds.  
Total bits counted: 294967286  
Michel2's method did it from 1 to 147483647 in 1.86 seconds.  
Total bits counted: 294967286  
Brooks's method did it from 1 to 147483647 in 1.53 seconds.  
Total bits counted: 293815079  
Dick's method did it from 1 to 147483647 in 2.31 seconds.
```

I did add it to the online version though :—)

Regards,
Bart

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"Share what you know. Learn what you don't."
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- **References:**

- ◆ **[CHALLENGE] finding rightmost zero bit**

- ◇ *From:* Bart Vandewoestyne

- ◆ **Re: [CHALLENGE] finding rightmost zero bit**

- ◇ *From:* Michel OLAGNON

- ◆ **Re: [CHALLENGE] finding rightmost zero bit**

- ◇ *From:* Dick Hendrickson

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