
Subject: Re: Obtaining exponent from a scientific format number
Posted by [Michael Baca](#) on Wed, 17 Apr 2002 16:50:22 GMT
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Well, part of this will depend on the format of the input number. The easy way to get the exponent of the number is:

```
value=6.8977653d-18 ; the d will assign the value to a double
exp_num = floor(alog10(value)) ; works for both positive and negative
exponents
```

Then you just need to decide your starting position. In your message, you moved the decimal place 7 positions to the right so the quick method would be:

```
exp_num = exp_num - 7 ; moves the decimal 7 places to the right
base_val = floor(value/10.0d^exp_num)
```

Not fancy, but should do the job. The good news is that this will also work on an array. So if you have an array of value, you can use the exact same code and takes minimal effort. Much more efficient than looping over values and counting positions in a string.

The biggest issue is handling the initial value. You may have problems keeping track of the 7+ decimal places if not defined properly. My initial attempts used 6.8977653e-18 and would consistently lose the 3 in the base number unless I defined the number as above (use d not e). Besides, recalling my days as a physics TA, do you really know the number that well. :)

Mike

"Juan I. Cicuendez" <jicicuendez@gmv.es> wrote in message
news:4b04c513.0204170601.64440c58@posting.google.com...

```
> Hi all,
>
> I have a problem and I am looking for a faster solution:
>
> I have a scientific formatted number (e.g. 6.8977653e-18) and I have
> to split the exponent and number into two parts like this:
> long:68977653
> exp:-25
> where the first factor has to be a long number and the second the
> exponent.
> The exponential factors can also change.
>
> The solution I came up is to turn the number into strings and then
> byte(mystring), obtaining the position of '.' and 'e' and then back to
```

> numbers. This seems to be quite slow and since I have a large number
> of data I don't think is very efficient.
>
> Thank you very much in advance, I would appreciate any hints.
>
> Juan
