How can I compute double factorials in Perl?

Asked 15 years, 11 months ago Modified 15 years, 11 months ago

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2

Given Wikipedia's discussion of Double Factorials, can anyone suggest where I might find a bignum version of this for Perl, or else suggest how it might be written?

perl bignum

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edited Jan 6, 2009 at 22:04

brian d foy

132k ● 31 ● 211 ● 604

asked Jan 6, 2009 at 12:45

bugmagnet

7,759 ● 8 ● 72 ● 137

4 Answers

Sorted by: Highest score (default)

3

Perl will handle whatever your C compiler can handle, for anything bigger you should be using Math::BigInt.

I would recommend you read perlnumber.

A definition for the double factorial (in perl golf):

```
sub f{$_[0]&&$_[0]>=2?$_[0]*f($_[0]-2):1}
```

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edited Jan 6, 2009 at 16:48

answered Jan 6, 2009 at 12:57

dsm

10.4k ● 1 ● 40 ● 73

I've been using BigInt. The issue is that BigInt doesn't have anything like a Double Factorial. It has `bfac` but that's a different beastie. – bugmagnet Jan 6, 2009 at 13:13

I thought you were after a number big enough to store the result, not a math library that would provide the operation. – dsm Jan 6, 2009 at 13:34

@boost: You can easily write one for you. – Hynek -Pichi- Vychodil Jan 6, 2009 at 13:54

@H.P.Y. Not wanting to make life /too/ easy I did provide one ;) – dsm Jan 6, 2009 at 13:56

Scalar value @_[0] is better written as $_[0] in stackoverflow.com/questions/416377. Golfing is fun, but golfing with warnings turned on is even better. ;) – pjf Jan 6, 2009 at 15:58

2

Here are lots of alternative approaches to implementing Fast Factorial Functions. The Poor Man's algorithm may be a good choice for you, as it uses no Big-Integer library and can be easily implemented in any computer language and is even fast up to 10000!.

The translation into Perl is left as an exercise for the OP :-)

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answered Jan 6, 2009 at 21:48

Kevin Haines

2,552 ● 3 ● 18 ● 19

1

Perl 5.8 and later come with the bignum package. Just use it your script and it takes care of the rest:

```
use bignum;
```

I talk about this a bit in Mastering Perl when I use the factorial in the "Profiling" chapter.

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answered Jan 6, 2009 at 22:09

brian d foy

132k ● 31 ● 211 ● 604

1

Although dsm's answer is accurate, the *real* way to calculate factorials in Perl, regardless of whether you use dsm's algorithm (golfed or not) is to *memoize* it. If you are

going to call it with any frequency, you'll want to memoize any recursive mathematical function.

```
use Memoize;
memoize( 'fact2' );

sub fact2 {$_[0]&&$_[0]>=2?$_[0]*fact2($_[0]-2):1}
```

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edited Jan 8, 2009 at 7:49

answered Jan 8, 2009 at 5:33

Axeman

29.8k ● 2 ● 49 ● 103

probably you want to edit that to sub fact2 {$_[0]&&$_[0]>=2?$_[0]*fact2($_[0]-2):1} – bugmagnet Jan 8, 2009 at 7:27