Subject: Re: FOR loops removal
Posted by loebasboy on Fri, 22 Aug 2008 09:08:42 GMT
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On Aug 21, 8:34 pm, Chris <beaum...@ifa.hawaii.edu> wrote:
> What about something like this?
>
> s= 2*(array le 2)-1
> array = (array ne 0)*array + (array eq 0)*(shift(s,1)+shift(s,-1))
>
> You'll have to manually fix the endpoints, but the rest should be
> good. I tested this and the first loop on an array of 400,000
> elements. The first loop rand in .54 seconds, while the second ran in .
> 054s.
>
> Also, you should be a little careful when testing whether array equals
> zero. If the array isn't an integer type (int, byte, long, etc), then
> its possible to have numbers you think ought to be zero but, because
> of finite precision arithmetic, have very small nonzero values. If you
> suspect that this is happening, you can try a test like abs(array) le
> eps, where eps is something like 10^-5 or something big enough to
> cover roundoff error but small enough not to treat nonzero data you
> care about as zero
>
> chris

Hello, thank you both for the input. Chris, yours doesn't go faster
also despite it is really elegant (and pointing me to the shift
function, which I didnt know exist and can come in handy). The reason
for the lack of speed profit is that I haven't a large array there
that needs to be processed, instead I have many small array that need
to be processed (the whole of my program exist of one BIG for loop)
and there are relatively a lot of zeros in the processed array (which
is why the WHERE function solution doesn't work either)

To answer Jeremy's question, the real bottleneck was the former FOR
loop removal problem, which was part of a function that is repeated
1359520 times for a test image and taking up 39.1 s now and 248.2 s
before. The FOR loop I was asking about now, is a part of a function
that is also repeated 1359520 times and takes up 29 s now. The former
function cannot be made any faster than it is now (thanks to all of
you ;)). So I started working on the simplest FOR loop in the latter
function but it didn't work out.