
Subject: Re: The usual vectorising headache

Posted by [Edd Edmondson](#) on Mon, 25 Apr 2005 14:16:36 GMT

[View Forum Message](#) <> [Reply to Message](#)

Edd <eddedmondson@hotmail.com> wrote:

- > I've ended up with a situation I'm having trouble vectorising effectively.
- > The operation I want to do is a
- > $\text{transpose}(p) \cdot q \cdot p$
- > where p is Array[4] q is Array[4,4]
- > Now I need to do this operation with a few tens of thousands of different
- > p's, so I've got actually got a p which is Array[bignum,4].
- > Obviously I want to vectorise it so I loop over 4s, rather than loop over
- > bignums if I have to loop at all, but I don't want to have to completely
- > specify the whole operation in individual 0,1,2,3 elements or the code
- > looks pretty unreadable (but I'll do that if necessary).
- > Anyone got any clever tricks I might use?

Hmm, well I think I've got something that makes sense, but can someone take a peek and check this comes out right?

```
tot=0
```

```
for j=0,3 do tot+=p[* ,j]*(q[0,j]*p[* ,0]+q[1,j]*p[* ,1]+q[2,j]*p[* ,2]$  
    +q[3,j]*p[* ,3])
```

Still a bit ugly though... hohum.

--

Edd
