Subject: Re: Can this be vectorized?
Posted by Gautam Sethi on Tue, 26 Oct 1999 07:00:00 GMT
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In comp.soft-sys.matlab Bert Jagers <hrajagers@my-deja.com> wrote:
: Dear John,

: Two solutions in Matlab: one completely vectorized, one partially.
: Of course, you could also implement it as a MEX file.

: F=find([1 diff(I) 1]);
: XS=[0 cumsum(X)];
: Y=XS(F(2:end))-XS(F(1:(end-1)));

: There is one major drawback to this implementation, since

:> In reality, X consists of about one million elements,

: you may loose accuracy when taking the difference of two large
: cummulative values. So, I tried to find another solution.

: F=find([1 diff(I) 1]);
: Y=zeros(1,length(F)-1);
: for i=1:length(Y),
:   Y(i)=sum(X(F(i):(F(i+1)-1)));
: end;

: The memory usage is probably comparable. In both cases there needs to
: be space for the matrices I,X,F and [1 diff(I) 1], or else Matlab will
: start swapping.

: Best regards,

: Bert Jagers

since memory is of issue, you may want to try this non-vectorized one as well:
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```
function K = davis(I,J)

for i = min(I):max(I)
   K(i) = sum(J(find(I == i)));
end
```
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