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clear
n = [1 : 20 ];
x1 = sin((2*pi/40) * n) .* cos((2*pi/40) * n);
for index = 1 : 20
    % Note: In MATLAB, no need to pre-allocate the array,
    % unlike C++ and other high-level programming languages.
    x2(index) = sin((2*pi/40) * index) * cos((2*pi/40) * index);
end
subplot(2,1,1)
stem(n, x1)
title('Elegant method making full use of MATLABs array capabilities')
xlabel('n')
ylabel('x[n]')
subplot(2,1,2)
stem(n, x2)
title('Gets the job done, but it is a lot of work and we are not in the
    MATLAB mindset')
xlabel('n')
ylabel('x[n]')

```



