```
%!-----------------------------------------------------------------------------
%! DSP HW3 #2
%!  - Calculated ck for x = {...,1,0,1,2,3,2,1,0,1,...}
%!-----------------------------------------------------------------------------

%! Enviorment
x = [1,0,1,2,3,2,1,0,1];
c = zeros(1,9);
n = [0,1,2,3,4,5,6,7,8];

% Calculate the Ck
for k=0:8
    e = [exp(-1j*2*pi*k*n/9)];
    c(k+1) = (x(1)*e(1) + x(2)*e(2) + x(3)*e(3) + x(4)*e(4) + x(5)*e(5) + ...
            x(6)*e(6) + x(7)*e(7) + x(8)*e(8) + x(9)*e(9)) ./ 9;
end

disp(abs(c))
disp(angle(c))
```

```
  Columns 1 through 7

    1.2222    0.5036    0.3719    0.1111    0.1245    0.1245    0.1111

  Columns 8 through 9

    0.3719    0.5036

  Columns 1 through 7

         0   -2.7925    0.6981    1.0472    1.3963   -1.3963   -1.0472

  Columns 8 through 9

   -0.6981    2.7925
```

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