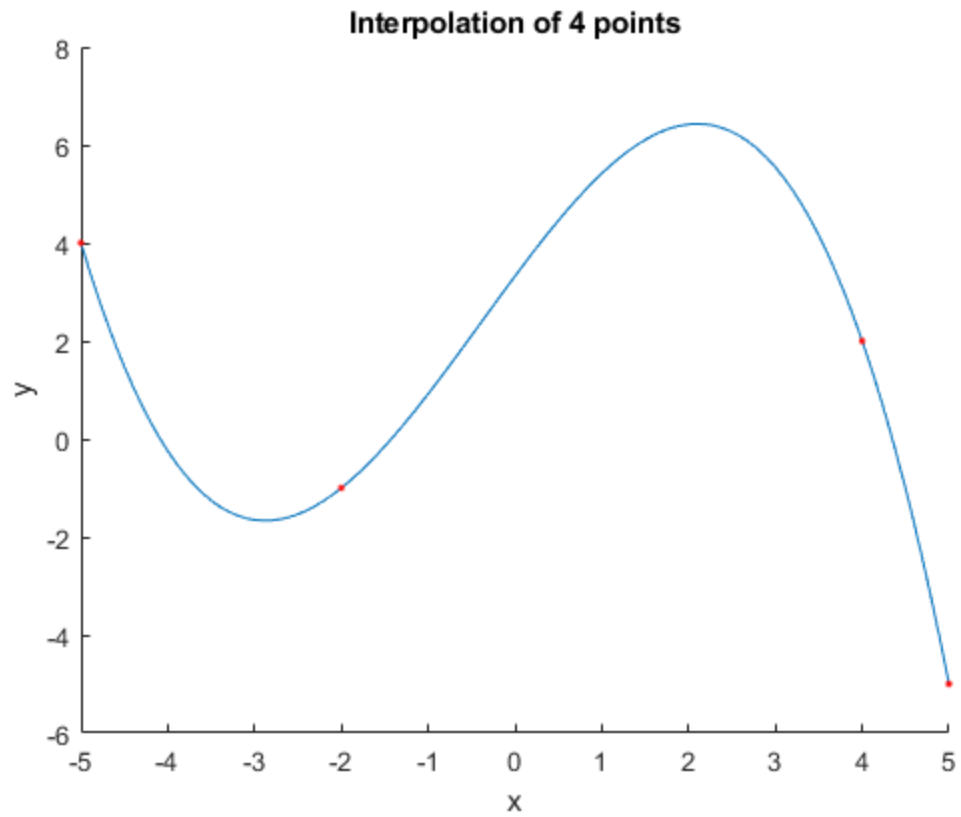```matlab
% PreLab 5
% Aero 300
% Liam Hood

%Inputs
x0 = [-5 -2 4 5] ; %x input data
y0 = [4 -1 2 -5] ; %y input data
interval = -5 : .1 : 5 ; %interval of evaluation
n = 3 ; %degree of polynomial to be evaluated

%Find best fit polynomial
pc = polyfit(x0 , y0 , n) ; %Find coeffecients
p = @(x) pc(1)*(x.^3) + pc(2)*(x.^2) + pc(3)*x + pc(4) ; %Creating
 polynomial function

%Plotting
hold on
plot(interval , p(interval)) %Plots interpolation function
plot(x0 , y0 , 'r.') %Plots original data points as red dots
title('Interpolation of 4 points') %Titles plot
xlabel('x') %labels x axis
ylabel('y') %labels y axis

disp('Polyfit uses QR factorization. This is order n^3 while Newtons
 divided difference is order n^2')

Polyfit uses QR factorization. This is order n^3 while Newtons divided
 difference is order n^2
```

Interpolation of 4 points

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