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Embedded Scientific Computing

HW Problem # 18

1. Don’t know how to extract polynomial data / coefficients from how I implemented the Matlab, hopefully the graphs are enough!

Matlab code:

w = 80;

r\_1 = .8:.0001:1;

r\_2 = .6:.0001:1;

g\_r1 = cos(w\*log(r\_1));

g\_r2 = cos(w\*log(r\_2));

x = [.800 .803 .815 .828 .841 .855 .868 .882 .896 .910 .924 .939 .954 .969 .984 1];

y = cos(w\*log(x));

splines = spline(x, y);

figure(1)

plot(x,y,'o',r\_1,ppval(splines,r\_1),'r-', r\_1, g\_r1, 'g-')

legend('Data Points','Splines','Original Function')

figure(2)

plot(x,y,'o',r\_2,ppval(splines,r\_2),'r-', r\_2, g\_r2, 'g-');

legend('Data Points','Splines','Original Function')



