Math 455: Homework 5
(Work in group of 4-5 students)

1. Write a MATLAB program that takes two vectors, $x = (x_0, \ldots, x_n)$ and $y = (y_0, \ldots, y_n)$ as inputs, and returns the divided difference $[x_n \cdots x_0]$. Use recursive programming. (Due before class on Friday, September 12 by e-mail. Please CC to everyone in the group.)

2. (Extra credits) Let $f(x) = x^2$. Show that

$$(B_n f)(x) = x^2 + \frac{x(1-x)}{n}.$$

(Due in class on Friday, September 12.)