HW08: Interpolation and Series

Date Due: 11:59pm on 2015-04-08

For the problems in this assignment, you should assume that all vector input and output arguments are column vectors. Vectors defined by x and y are always the same size. Vectors defined by X and Y are always the same size. You may assume that the values contained in x and X are unique and in ascending order. You may also assume that the all the values of X are between min(x) and max(x), inclusively.

1. **(10 points):** Do Problem 14.1 (**`myLinInterp`**) in Siauw and Bayen.

2. **(10 points)**: Do Problem 14.9 (**`myLagrange`**) in Siauw and Bayen.

3. **(10 points)**: Write a function with header **`[approx] = myExp(x,N)`**, which computes an approximation of e^x using the first N terms of the Taylor series expansion.

4. **(10 points)**: Do Problem 15.6 (**`myCoshApproximator`**) in Siauw and Bayen. Hint: Note that the value of $f^n(0)$ will be zero if n is odd and 1 if n is even.

Deliverables: Submit the following m-files (separately, not zipped) onto Blackboard. **Be sure that the functions are named *exactly* as specified, including spelling and case**.

```
myLinInterp.m
myLagrange.m
myExp.m
myCoshApproximator.m
```