HW05: Complexity and Numerical Precision

Date Due: 11:59pm 2015-03-11

(All point values below are given in binary)

1. **(Worth 0100 points): Do Problem 8.1 in Siauw and Bayen**

2. **(Worth 0110 points): Do Problem 8.2 in Siauw and Bayen.**

3. **(Worth 1000 points): Do Problem 8.4 in Siauw and Bayen.**

4. **(Worth 1000 points): Do Problem 8.6 in Siauw and Bayen.**

5. **(Worth 1000 points): Do Problem 8.7 in Siauw and Bayen.**

6. **(Worth 0110 points):**

I have attached functions "**myBubbleSort**" and "**myQuickSort**" to this assignment in Blackboard. Write a function with the header **[ ] = mySortTimer( )**. This function should store the time required to sort **n** numbers for **n** from **2^5** to **2^10** in steps of **100** using an iterative sort (**myBubbleSort**) and a recursive sort (**myQuickSort**). The function should produce one plot with two lines (one for the bubble sort, one for the quick sort). The number of elements should be on the x-axis, and solution time on the y-axis.

Things that will make your plot better but are not necessary (you won't be graded on them)
- a grid
- a legend
- both markers and lines through the data

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. You will receive no credit for incorrectly named functions.

myBin2Dec.m
myDec2Bin.m
myBinAdder.m
myIEEE2Dec.m
myDec2IEEE.m
mySortTimer.m

DO NOT UPLOAD myBubbleSort.m and myQuickSort.m. I already have them, thank you.