CS/DSA 4413 Algorithm Analysis

HW#1 Practice Problems

1) Let $T_1(n) = 8\ n^2$ and $T_2(n) = 64n \log_2 n$. Find the value n^* such that for all $n \geq n^*$, $T_1(n) \geq T_2(n)$

2) Let $T_1(n) = 100\ n^2$ and $T_2(n) = 2^n$. Find the value of n^* such that for all $n \geq n^*$, $T_2(n) \geq T_1(n)$

3) a) Find the size of the problem that can be solved in 1 hour on a computer that takes 10^{-9} sec/op using algorithms with time complexity:

$\log_2 n$, $10n$, $2n^2$, $20\ n\log_2 n$, 2^n and $n!$

b) Redo the problem if you are allowed 1 day instead of 1 hour

4) Read chapter 1 and chapter 2 of the text book.

Note: Practice problems are not to be submitted for grading.