BIL-533

HW 2

***1.2-2***

Suppose we are comparing implementations of two algorithms, which perform the same operation, on the same machine. For inputs of size *n*, first algorithm runs in steps, while the second one runs in steps. For which values of *n* does first algorithm beat while the second algorithm?

***1.2-3***

What is the smallest value of n such that an algorithm whose running time is 100 runs faster than an algorithm whose running time is on the same machine?

***1-1 Comparison of running times***

For each function *f*(*n*) and time *t* in the following table, determine the largest size n of a problem that can be solved in time *t* , assuming that the algorithm to solve the problem takes *f*(*n*) microseconds.



***2.2-1***

Express the function in terms of Θ-notation. = O(n^3).