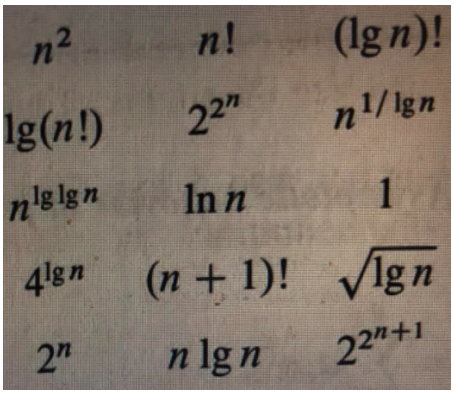
Home Work 1 Due day: Feb. 10

All solutions should be typed, using Latex preferably.

(1) Chapter 1, 4

(2) In stable marriage problem, suppose we change two genders to one, show that for any given 2n (n>1) persons, there always exists a preference order such that stable pairings among 2n do not exist. You can start with n=2 and n=3, and then, generalize the conclusion for any n.

(3) (a) Rank the following functions by order of growth. (b) Partition your list into equivalence classes such that functions f(n) and g(n) are in the same class if and only if f(n) = Θ (g(n)). lg*n is the iterated logarithm function with 10 as its base.



(4) Chapter 4, 2

(5) Chapter 4, 13

(6) Chapter 4, 15