Spring 2012 CS 401 Homework 1

State all necessary assumptions clearly.
Due date: Feb 16, 2010 in class

1. There are $2n$ men. In how many ways can they be paired up?
2. Problem 2.4
3. Problem 3.2
4. Problem 3.9
5. Provide a counter-example to show that the "earliest finish time first" leads to a non-optimal solution for the "Scheduling All Intervals" problem (pages 122-125).
6. Problem 4.9
7. Problem 4.10
8. Problem 4.21
9. Problem 5.2
10. Problem 5.4
11. Solve the recurrence relation: $T(n) = 4T(n/2) + n$
12. Solve the recurrence relation: $T(n) = 3T(n/3) + n$
13. Solve the recurrence relation: $T(n) = 2T(n/3) + n$