

Home Work 2 Due day: Feb. 20

All solutions should be typed, using Latex preferably.

- (1) Use recursion tree to guess a bound, then proof it using induction. Finally, use master theorem to directly get the bound. Try to make your bounds as tight as possible.

$$T(n) = 2T(n/2) + n^3$$

$$T(n) = 4T(n/3) + n^2$$

$$T(n) = T(n-2) + 1/n$$

- (2) Chapter 5, 1
- (3) Chapter 5, 2
- (4) Chapter 5, 3
- (5) Chapter 5, 6