

14.385. Sample Questions for the Midterm. There will be three questions.

### **1 Question 1.**

(30 minutes)

- (a) Briefly outline linear quantile regression model, list its advantages and disadvantages as compared to the classical linear location model.
- (b) Briefly explain the equivariance to monotone transformations that quantile regression models have and conditional mean models don't. State some interesting examples.

### **2 Question 2.**

(30 minutes)

- (a) Briefly explain why and when the bootstrap works.
- (b) What is the bootstrap bias correction method? State the pseudo-code for bias correction.