

## ASSIGNMENT OF WEEK THIRTEEN

**Exercise 1.** Let  $\mathbf{Q}$  be the set of rational numbers. Show that there is no open interval  $I$  such that  $I \neq \emptyset$  and  $I \subseteq \mathbf{Q}$ .

**Exercise 2.** The set  $\mathbf{R} - \mathbf{Q}$  is dense in  $\mathbf{R}$ .