Exercises

E13.14 [152]Prerequisites:categories of Baire Sec. [OMR].Difficulty:*.

Show that there is no function $f : \mathbb{R} \to \mathbb{R}$ which is continuous on the rational points and discontinuous on the irrational points. *(Hint. Show that the set $\mathbb{R} \setminus \mathbb{Q}$ of irrationals is not a F_σ set in $\mathbb{R}$, using Baire's theorem.)*

Solution 1. *[153]*