Exercises

E6.50 [29S]Prerequisites:[29R].*(Solved on 2022-11-24)*

Let $I \subset \mathbb{R}$, $x_0 \in \overline{\mathbb{R}}$ accumulation point of I, and $f, g : I \to \mathbb{R}$ functions. Prove that

$$\limsup_{x \to x_0} \big(f(x) + g(x)\big) \leq \limsup_{x \to x_0} f(x) + \limsup_{x \to x_0} g(x) \quad .$$