Exercise 6.13. *[29J]Prerequisites:[06M].Difficulty:*.(Proposed on 2022-11-24)*
Let $x_0 \in \overline{\mathbb{R}}$ and $\mathcal{F}$ all the neighbourhoods of x_0. We associate the ordering

$$I, J \in \mathcal{F} \ , I \leq J \iff I \supseteq J$$

show that this is a filtering ordering.
(This holds both for "deleted" and for "full" neighbourhoods; for 'left',
"right", or "bilateral" neighbourhoods).
(See also [0GQ] for the similar statement in topological spaces).