

Examples for Limit Superior and Inferior

Exercise 1.

Determine the set of all accumulation points and \limsup and \liminf for the following sequences:

(a) (a_n) , where (a_n) is periodic with period $k \in \mathbb{N}_0$,

(b) (q_n) , where the sequence is a numbering of all rational numbers in $(0, 1)$, i.e.,
 $\mathbb{Q} \cap (0, 1) = \{q_n \mid n \in \mathbb{N}\}$.