

## 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.,  
 $\mathbb{Q} \cap (0, 1) = \{q_n \mid n \in \mathbb{N}\}$ .