Homework assignment 10 (due Friday, April 9)

1. Find $\sup\{x \in \mathbb{R} : 0 < x < 3\}$. Justify your answer.

2. Let $A = \{-\dfrac{1}{n} : n \in \mathbb{N}\} \subset \mathbb{R}$. Find (and justify your answer)

    (a) $\sup A$

    (b) $\inf A$

    (c) $\max A$ if it exists. If it does not exist, prove this.

    (d) $\min A$ if it exists. If it does not exist, prove this.