Problem statement a) Is there a power series whose interval of convergence is the interval $(0, 1]$, that is, the interval defined by $0 < x \leq 1$? Give an explicit series or explain why there is no such series.

b) Is there a power series whose interval of convergence is the interval $(0, infty]$, that is, the interval defined by $0 < x$? Give an explicit series or explain why there is no such series.