HW 2-8

① If $p, q \in \mathbb{R}$, prove $|p|-|q| \leq |p-q|$.

② Suppose $\lim_{k\to\infty} x_k = x$ and $c \in \mathbb{R}$ is such that $\forall k \in \mathbb{N}$ $x_k \geq c$. Prove that $x \geq c$.

③ If $\lim_{j\to\infty} y_j = y$, prove $\lim_{j\to\infty} |y_j| = |y|$.