MATH310 Homework 2022-08-11
Due Gradescope 11:59pm 2022-08-15

1. Prove that if $\{a_n\} \longrightarrow L$ and $\{c_n\} \longrightarrow L$ and if $\{b_n\}$ is a sequence such that $a_n \leq b_n \leq c_n$ for all n, then $\{b_n\} \longrightarrow L$. [50pts]

2. Prove that if $\{a_n\}$ is a sequence with the property that $a_n \geq 0$ for all n and $\{a_n\} \to L$ that $L \geq 0$. [50pts]