Exercises 7.2.4 — Problem 2

Problem. State a contrapositive form of the comparison test that can be used to show divergence of a series.

Proof. Contrapositive: For infinite series $\sum_{k=1}^{\infty} x_k$ and $\sum_{k=1}^{\infty} y_k$ with non-negative x_k and $x_k \leq |y_k|$, we can say that if $\sum_{k=1}^{\infty} x_k$ diverges that $\sum_{k=1}^{\infty} y_k$ is divergent.

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