

# Lecture 8

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Theorem Suppose that  $\sum_{n=1}^{\infty} a_n$  is conditionally convergent. Then  $\forall L \in \mathbb{R}, \exists$  rearrangement of  $\sum_{n=1}^{\infty} a_n$  that converges to  $L$ .

Proof Let  $x_1$  be the smallest natural number such that  $p_1 + \cdots + p_{n_1} > L$ .