

Proof of Riemann mapping theorem using potential theory

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Abstract: One of the celebrated theorems in complex analysis is Riemann mapping theorem, which classifies the non-empty proper simply connected domains in the complex plane. An alternative and less-known way to prove this theorem involves using potential theory, where a notion called Green's function is crucial.

In this discussion, we'll start by explaining what Green's function is and go over some of its key results. Additionally, we'll explore some results from potential theory that help us prove the Riemann mapping theorem.

Note: This is continuation of last student seminar delivered by Chandan Sur.