Prim's Minimum Spanning Tree Alg

Greedy Tree Builder where semantics of tag is minimum weight edge connecting vertex to T
Correctness Proof

**Key Fact:** Prove that the first edge placed in \( T \) is part of some minimum spanning tree.

Suppose not!

Let \( T \) be a minimum spanning tree.

Remove \( e_2 \) and add \( e_1 \), we have a minimum spanning tree.
Graph contraction

Problem is reduced to finding a minimum spanning tree in the graph with 1 less vertex.