

SBU Math Club Student Talk

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It is well known that the rational numbers are countable. In 1999, Neil Calkin and Herbert S Wilf introduced an explicit enumeration of the positive rationals using an infinite binary tree now called the Calkin-Wilftree. We will introduce the Calkin-Wilf tree and related constructions such as the Stern-Brocot tree, the Farey Diagram, Conway's Topograph and Nathanson's forest of linear fractional transformations. If time permits, I will present my own generalization of the Calkin-Wilf tree to higher dimensions.