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*Decomposing Graphs into Cycles*

A cycle decomposition is a partitioning of a graph's edges into cycles. A decomposition of the complete graph $K_v$ into 2-factors where each 2-factor consists entirely of $m$-cycles is called a $C_m$-factorization. The Hamilton-Waterloo Problem, HWP$(v; m, n; \alpha, \beta)$ asks for a decomposition of $K_v$ or $K_v - I$ into $\alpha$ $C_m$ factors and $\beta$ $C_n$-factors, where $3 \leq m \leq n$. In this presentation, I will discuss a technique that can be applied to solve some of the difficult cases in which $\alpha = 1$ or $\beta = 1$.