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**Title:** Counting Hamiltonian Cycles in Bipartite Graphs

**Abstract:** A computational method for counting Hamiltonian cycles in bipartite graphs is presented. The algorithm constructs subpaths of the Hamiltonian cycle in a subgraph induced by vertices within some maximum distance of a chosen starting vertex; by repeatedly incrementing the maximum distance, a dynamic programming algorithm results. For speedup, symmetries of the graph being examined are useful, and one need not consider the internal structure of the subpaths.