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Experiments in confined liquid Helium-4 systems have shown quasi-1D behavior consistent with 1D bosonic theory. In these experiments, confined liquid Helium becomes strongly correlated, consistent with a theory called Luttinger Theory, which predicts a novel state of matter that exists only in 1D systems. In this research, we study 1D boson systems using a numerical exact diagonalization method, called the Lanczos Method, in order to gain insight into this important class of novel physical systems. We use the quantum Ising Model, with nearest neighbor interaction, as a test case for the Lanczos algorithm. In Python, the Hamiltonian for the N-body spin system is constructed and then Lanczos-diagonalized, and important quantities, such as energy, magnetic moment, and correlation strength, are calculated and plotted.