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# Part 2: Convolutional Codes

The Jacobi method and the Gauss-Seidel method are both iterative methods. Although both methods are used to solve a linear system, there are some differences between Jacobi and Gauss-Seidel. One difference is that the Jacobi iterations takes approximately two times as many iterations to get to the solution as the Gauss-Seidel method does. Also, for tridiagonal matrices, the Jacobi and Gauss-Seidel methods converge or diverge simultaneously. However, when they do converge, the Gauss-Seidel method converges two times faster than the Jacobi method.

The length of the initial stream does have an effect on the number of iterations is required to achieve the given tolerance: the greater the length, the more number of iterations it will take for the iterative methods to get to the error tolerance.