### Explanation

**Matrix and Vector Definition**:

* 1. A is defined as a 3x3 matrix and b as a vector.

**Jacobi's Method Implementation**:

* 1. The jacobi function takes A, b, tol, and max\_iter.
  2. x is initialized to a zero vector.
  3. In each iteration, x\_new is computed using a compact form of the update formula with sapply.
  4. Convergence is checked using the Euclidean norm of the difference between x\_new and x.
  5. If convergence is achieved, the function returns x\_new.
  6. If the maximum number of iterations is reached without convergence, a warning is issued.

**Application**:

* 1. The jacobi function is called to solve the system.
  2. The solution is printed and verified by comparing A %\*% solution with b.

### Conclusion

This condensed version of Jacobi's method is more compact while retaining the essential functionality. It efficiently computes the solution to the system of linear equations with a clear and concise implementation.