Consider solving the following linear system of equations

$$\begin{aligned} 4x_1 - x_2 + x_3 &= 8, \\ 2x_1 + 5x_2 + 2x_3 &= 3, \\ x_1 + 2x_2 + 4x_3 &= 11. \end{aligned}$$

which has the exact solution $x_1 = 1, x_2 = -1, x_3 = 3$.

Using Jacobi Method:

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Solution after           19  iterations:
x(           1 ) =    1.00000012
x(           2 ) =   -0.999999046
x(           3 ) =    3.00000095
```