function [x,i] = jacobi2(A, b)

if ~isDiagonallyDominant(A)

warning('La matriz no es dominante diagonal, puede que no converja')

end

tol = eps;

n = length(A);

D = diag(A);

U = triu(A,1);

L = tril(A,-1);

x = zeros(size(b));

cond = true;

max\_iters = 1000;

i = 1;

while cond

xp = x;

for j=1:n

bj = b(j);

fac = D(j);

if j==1

x(j) = (bj- U(j,j+1:n)\*xp(j+1:n))/fac;

elseif j==n

x(j) = (bj - L(j,1:j-1)\*xp(1:j-1))/fac;

else

x(j) = (bj - (L(j,1:j-1)\*xp(1:j-1)+U(j,j+1:n)\*xp(j+1:n)))/fac;

end

end

i = i+1;

cond = norm((x-xp)./x) < tol && i<max\_iters;

end