```
function ret=jacobi(A, b, k) %Solution of a system of linear equations Ax=b up to k iterations using %the Jacobi method pouet ret = zeros(length(k),length(b)); iter=0; error=0.0; normb=norm(b); x=zeros(length(b),1); % Jacobi Splitting M=diag(diag(A)); N=M-A; % initial norm r=b-A*x; error=norm(r)/normb; for iter=1:k x = M \ (N*x+b); ret (iter,:)=x; r = b - A*x; error = norm(r)/normb; %If the error is very small, the result is set to the current %result for all 'future' iterations, which are not performed. if (error < 1E-15) for iter2=iter:k ret (iter2,:)=x; end return; end end end
```