r_0=b-Ax_0

p_0=r_0

f=0

for f to 1000000 **do**

    $alpha_f = \frac{r_f^T * r_f}{p_f^T * A * p_f}$

    x_{f+1}=x_f+alpha$_f$*p_f

    r_{f+1}=r_f-alpha$_f$*p_f*A

    if r_{f+1}^T*r_{f+1} is small enough **then**

        break

    end if

    $beta_f = \frac{r_{f+1}^T * r_{f+1}}{r_f^T * r_f}$

    r_{f+1}=r_{f+1}+beta$_f$*p_f

    f=f+1

end for