

# Esercitazione 24/04

Metodo Iterativo

$$Ax = b \Leftrightarrow \alpha Ax = \alpha b$$

$(\alpha \neq 0)$

$$\alpha Ax = \underbrace{I - (I - \alpha A)}_N$$

$M$   $N$

$$\alpha Ax = \alpha b \Leftrightarrow x = (I - \alpha A)x + \alpha b$$

Metodo Iterativo

$$x^{(k+1)} = (I - \alpha A)x^{(k)} + \alpha b$$

Condizioni:

Gutter: si arresta

$$\frac{\|x^{(k+1)} - x^{(k)}\|}{\|x^{(k)}\|} \leq \tau \text{ e}$$

0  $k > 1$  max iter.

INPUT  $A, \alpha, b$  ~~NO~~ Tol. MaxIter

OUTPUT  $X^{(k+1)}$  ~~ERROR~~ ~~MAXITER~~  $\alpha, X$

RICHARDSON ITERATION