

# Resolution of the system of linear equations $AX = b$ with SCILAB

- With the function **rref** applied to the augmented matrix of the system:

$\text{rref}([A \ b])$

- With the command  $\backslash$  and the function **kernel**:
  - $X = A \backslash b$  (Particular solution)
  - $\text{kernel}(A)$
  - If  $C_1, C_2, \dots, C_p$  are the columns of  $\text{kernel}(A)$ , then the set of solutions is

$$X + \lambda_1 C_1 + \lambda_2 C_2 + \dots + \lambda_p C_p$$

Being  $\lambda_1, \lambda_2, \dots, \lambda_p \in \mathbb{R}$  (parameters)