Esempio riduzione a gradini Gauss

$$A = \begin{pmatrix} 0 & 0 & 1 & -1 & 3 \\ 0 & \textcircled{2} & 2 & 7 & 0 \\ 0 & 1 & 0 & 2 & 1 \end{pmatrix}$$

↑ a_2 primo colonna non nulla

$a^1 \longleftrightarrow a^2$

$$\begin{pmatrix} 0 & 2 & 2 & 7 & 0 \\ 0 & 0 & 1 & -1 & 3 \\ 0 & \textcircled{1} & 0 & 2 & 1 \end{pmatrix}$$

Poco $\lambda \in \mathbb{R}$: $1 + \lambda \cdot 2 = 0 \Longrightarrow \lambda = -\frac{1}{2}$

allora $\underline{a^3} \longrightarrow \underline{a^3} + \left(-\frac{1}{2}\right)\underline{a^1}$

$$(0,1,0,2,1) + \left(-\frac{1}{2}\right)(0,2,2,7,0) = \left(0,0,-1,-\frac{3}{2},1\right)$$

$$\begin{pmatrix} 0 & 2 & 2 & 7 & 0 \\ 0 & 0 & 1 & -1 & 3 \\ 0 & 0 & \textcircled{-1} & -\frac{3}{2} & 1 \end{pmatrix}$$

$a^3 = a^3 + a^2 = \left(0, 0, 0, -\frac{5}{2}, 4\right)$

$$\begin{pmatrix} 0 & 2 & 2 & 7 & 0 \\ 0 & 0 & 1 & -1 & 3 \\ 0 & 0 & 0 & -\frac{5}{2} & 4 \end{pmatrix}$$ è ridotta a gradini.

ha rango $3 = 3$ pivot