Esempio

$$A = \begin{pmatrix} 0 & 0 & 1 & 2 & -1 \\ 0 & 0 & 3 & 0 & 2 \\ 0 & \boxed{2} & 0 & 1 & 1 \\ 0 & -2 & 1 & 2 & 3 \end{pmatrix} \in \mathcal{M}_{4\times 5}(\mathbb{R})$$

$j_1 = 2 \qquad r_1 = 3 \qquad a^1 \longleftrightarrow a^3$

$$\begin{pmatrix} 0 & 2 & 0 & 1 & 1 \\ 0 & 0 & 3 & 0 & 2 \\ 0 & 0 & 1 & 2 & -1 \\ 0 & -2 & 1 & 2 & 3 \end{pmatrix} \quad a_4 \to a^4 + a^1(1)$$

$$\begin{pmatrix} 0 & 2 & 0 & 1 & 1 \\ 0 & 0 & \boxed{3} & 0 & 2 \\ 0 & 0 & 1 & 2 & -1 \\ 0 & 0 & 1 & 3 & 6 \end{pmatrix}$$

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

$$a^4 \to a^4 + \left(-\frac{1}{3}\right) a^2$$

$$\begin{pmatrix} 0 & 2 & 0 & 1 & 1 \\ 0 & 0 & 3 & 0 & 2 \\ 0 & 0 & 0 & \boxed{2} & -\frac{5}{3} \\ 0 & 0 & 0 & 3 & \frac{10}{3} \end{pmatrix}$$

$$a^4 \to a^4 + \left(-\frac{3}{2}\right) a^3$$

$$\begin{pmatrix} 0 & 2 & 0 & 1 & 1 \\ 0 & 0 & 3 & 0 & 2 \\ 0 & 0 & 0 & 2 & -\frac{5}{3} \\ 0 & 0 & 0 & 0 & \frac{35}{6} \end{pmatrix}$$

$$\frac{10}{3} + \frac{15}{6} = \frac{20+15}{6} = \frac{35}{6}$$

è ridotta a gradini ed ha rango $= 4 =$ # pivot