

یکشنبه ۱۹ جمادی الاولی ۱۴۳۷

$A = \begin{bmatrix} 1 & 2 & 3 \\ 1 & 4 & 5 \\ 1 & 2 & 5 \end{bmatrix} \sim \begin{bmatrix} 1 & 2 & 3 \\ 0 & 1 & -2 \\ 0 & 0 & 1 \end{bmatrix} \times 1 \sim \begin{bmatrix} 1 & 0 & 7 \\ 0 & 1 & -2 \\ 0 & 0 & 1 \end{bmatrix}$

خط اول + خط دوم
خط اول - خط دوم
خط اول + خط دوم

①

$$\det(A) = \Lambda \times \det \begin{bmatrix} 0 & 1 & \gamma \\ 0 & 1 & -\varepsilon \\ 1 & 1 & 1 \end{bmatrix} = \Lambda \times -\gamma = -\varepsilon \Lambda$$

$$B = \begin{bmatrix} 1+\alpha & \gamma+\alpha & \gamma+\alpha \\ 1+\alpha & \eta+\alpha & \epsilon+\alpha \\ \gamma+\alpha & \gamma+\alpha & \delta+\alpha \end{bmatrix} \sim \begin{bmatrix} 1+\alpha & \gamma+\alpha & \gamma+\alpha \\ 1 & \gamma & -1 \\ \gamma & \epsilon & \gamma \end{bmatrix} \sim \begin{bmatrix} 1+\alpha & \gamma+\alpha & \gamma+\alpha \\ \epsilon & \delta & 0 \\ \gamma & \gamma & 10 \end{bmatrix}$$

$$\det(B) = \gamma \times \det \begin{bmatrix} 1+\alpha & \gamma\alpha & \gamma\alpha \\ \varepsilon & \alpha & 0 \\ \gamma & \gamma & 1 \end{bmatrix} = (-\varepsilon \times (-\varepsilon - \alpha) + \alpha \times (-1 - \gamma\alpha)) \times \gamma$$

$$+ \gamma \gamma + \lambda x - \lambda_0 - \gamma_0 x = \epsilon \lambda - \gamma x$$

$$C = \begin{bmatrix} x^I & x^Y & x^W \\ x^A & x^Q & x^E \\ x^V & x^U & x^O \end{bmatrix} \Rightarrow \det(C) = x(x^{1E} - x^{1O}) - x^Y(x^{1P} - x^{1I}) + x^W(x^{1S} - x^{1Y})$$

$$= x''(\cancel{x}-1) - x^{1''}(\cancel{x}-1) + x^{IV}(1-x) = -x'' + x^{1''} + x^{IV} - x^{1V}$$