

Alt ucgen atris. (Lower triangular matrices)

$$A = \begin{bmatrix} 3 & 0 & 0 \\ 5 & 2 & 0 \\ 3 & 7 & 9 \end{bmatrix}, \quad B = \begin{bmatrix} 3 & 0 & 0 \\ 0 & 2 & 0 \\ 3 & 0 & 9 \end{bmatrix}, \quad C = \begin{bmatrix} 3 & 0 & 0 & 0 \\ 0 & 2 & 0 & 0 \\ 3 & 0 & 9 & 0 \\ 0 & 0 & 0 & 7 \end{bmatrix}, \quad D = \begin{bmatrix} 3 & 0 & 0 & 0 \\ 1 & 2 & 0 & 0 \\ 0 & 0 & 9 & 0 \\ 0 & 0 & 0 & 7 \end{bmatrix}$$

Ust Ucgen Matris. (Upper triangular matrices)

$$A = \begin{bmatrix} 3 & 4 & 1 \\ 0 & 2 & 8 \\ 0 & 0 & 9 \end{bmatrix}, \quad B = \begin{bmatrix} 3 & 0 & 4 \\ 0 & 2 & 0 \\ 0 & 0 & 9 \end{bmatrix}, \quad C = \begin{bmatrix} 3 & 6 & 0 & 3 \\ 0 & 2 & 0 & 2 \\ 0 & 0 & 9 & 0 \\ 0 & 0 & 0 & 7 \end{bmatrix}, \quad D = \begin{bmatrix} 3 & 0 & 0 & 0 \\ 0 & 2 & 7 & 0 \\ 0 & 0 & 9 & 0 \\ 0 & 0 & 0 & 7 \end{bmatrix},$$

Kosegen Matris. (Diagonal matrices)

$$P = \begin{bmatrix} 3 & 0 & 0 & 0 \\ 0 & 2 & 0 & 0 \\ 0 & 0 & 9 & 0 \\ 0 & 0 & 0 & 7 \end{bmatrix}, \quad Q = \begin{bmatrix} 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}, \quad R = \begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}, \quad T = \begin{bmatrix} 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 \end{bmatrix}$$

	Birim Matris	Birim Matris	Sifir matris
Diagonal Matrix	unit matrix (4x4)	unit matrix (2x2),	zero matrix

Echolen Matrix: a) All zero rows, if any, are on the bottom of the matrix

b) Each nonzero entry is to the right of the leading nonzero entry in the preceding row.

$$A = \begin{bmatrix} 1 & 2 & 5 \\ 0 & 4 & 3 \\ 0 & 0 & 3 \end{bmatrix}, \quad B = \begin{bmatrix} 1 & 2 & 5 \\ 0 & 0 & 0 \\ 0 & 0 & 3 \end{bmatrix}, \quad C = \begin{bmatrix} 1 & 2 & 5 \\ 0 & 0 & 1 \\ 0 & 0 & 3 \end{bmatrix}, \quad D = \begin{bmatrix} 0 & 2 & 5 \\ 1 & 2 & 1 \\ 0 & 0 & 3 \end{bmatrix}, \quad E = \begin{bmatrix} 1 & 2 & 5 \\ 0 & 0 & 0 \\ 0 & 0 & 0 \end{bmatrix},$$

$$F = \begin{bmatrix} 1 & 2 & 5 \\ 0 & 0 & 1 \\ 0 & 0 & 0 \end{bmatrix}, \quad G = \begin{bmatrix} 0 & 2 & 5 \\ 0 & 0 & 1 \\ 0 & 0 & 0 \end{bmatrix}, \quad H = \begin{bmatrix} 0 & 0 & 0 \\ 1 & 2 & 9 \\ 0 & 5 & 7 \end{bmatrix}, \quad J = \begin{bmatrix} 3 & 0 & 0 \\ 0 & 2 & 0 \\ 0 & 0 & 7 \end{bmatrix}$$

$$K = \begin{bmatrix} 1 & 2 & 5 & 6 & 0 & 9 \\ 0 & 2 & 5 & 6 & 6 & 7 \\ 0 & 0 & 0 & 0 & 3 & 8 \end{bmatrix}, \quad L = \begin{bmatrix} 1 & 2 & 5 & 6 & 0 & 9 \\ 0 & 0 & 5 & 6 & 6 & 7 \\ 0 & 0 & 0 & 0 & 3 & 8 \\ 0 & 0 & 0 & 0 & 0 & 8 \end{bmatrix}, \quad M = \begin{bmatrix} 1 & 2 & 5 & 6 & 0 & 9 \\ 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 5 & 6 & 6 & 7 \\ 0 & 0 & 0 & 0 & 3 & 8 \end{bmatrix}$$

$$N = \begin{bmatrix} 1 & 2 & 0 & 0 & 0 & 0 \\ 0 & 5 & 0 & 0 & 0 & 9 \\ 0 & 0 & 0 & 6 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 2 \end{bmatrix}, \quad P = \begin{bmatrix} 1 & 0 & 0 & 0 & 0 & 0 & 2 \\ 0 & 5 & 0 & 2 & 0 & 9 & 0 \\ 0 & 0 & 0 & 0 & 0 & 2 & 1 \\ 0 & 0 & 0 & 0 & 0 & 0 & 8 \end{bmatrix}, \quad Q = \begin{bmatrix} 0 & 0 & 0 & 0 & 0 & 0 & 2 \\ 0 & 5 & 0 & 2 & 0 & 9 & 0 \\ 0 & 0 & 0 & 0 & 0 & 2 & 1 \\ 0 & 0 & 0 & 0 & 0 & 0 & 8 \end{bmatrix}$$

A,E ,F,G ,J,K,L,N,P are in echolen form., C,D,H,M,Q are not in echolen form