

The Matrix Alphabet

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Common Linear Algebra Lettering

A - Any Matrix	C - Matrix of Columns
D - Diagonal Matrix	I - Identity Matrix
L - Lower Triangular Matrix	Q - Orthogonal Matrix
R or U - Upper Triangular Matrix	R - Matrix of Rows
S - Symmetric Matrix	U - Left Singular Matrix
V - Right Singular Matrix	X - Eigenvector Matrix
Λ - Eigenvalue Matrix	Σ - Singular Value Matrix

Domain Specific Lettering

C - Circulant Matrix	F - Fourier Matrix
L - Laplacian Matrix	M - Mixing Matrix
M - Markov Matrix	P - Projection Matrix
P - Probability Matrix	S - Sample Covariance Matrix
T - Tensor	V - Vandermonde matrix

Definitions for Domain Specific Lettering

The Circulant Matrix - is a type of **square** matrix where the **row vectors have the same elements** where each row's elements have been shifted to the **right** by 1 relative to the row above it.

$$C = \begin{bmatrix} c_0 & c_{n-1} & \dots & c_2 & c_1 \\ c_1 & c_0 & \dots & c_3 & c_2 \\ \vdots & \vdots & \ddots & \vdots & \vdots \\ c_{n-2} & c_{n-1} & \dots & c_0 & c_{n-1} \\ c_{n-1} & c_{n-2} & \dots & c_1 & c_0 \end{bmatrix}$$