Why

In pivoted reduction, we obtain a sequence of permuted row reducers.

Definition

Let $(A \in \mathbf{R}^{m \times m}, b \in \mathbf{R}^m)$ be a system. The pivoted reducer sequence is a sequence of matrices $R_1, \ldots, R_m$ where

Pivoted Reduce Factorization

Pivoted Row Reductions · Ordinary Reduce Factorization · Permutation Matrices

Ordinary Row Reductions · Row Reduce Matrices · Real Matrix Inverses

Linear System Row Reductions · Triangular Matrices · Matrix Transpose · Real Matrix-Matrix Products

Diagonal Matrices · Real Matrix-Vector Products

Matrices · Vectors as Matrices · Real Linear Combinations

Linear Equation Solution · Real Matrices · Real Inner Product

Linear Equations · Vectors · Real Norm

Linear Functions · Real Vector · Space Norm

N-Dimensional Space · Plane Vector Sums and Differences · Space Vector · Plane Norm · Plane Inner Product

Arrays · Distance · Plane Vectors · Absolute Value · Right Triangle Sides Relation

Space Distance · Real Squares

Plane Distance · Square Numbers · Real Arithmetic

Interval Length · Squares · Real Multiplicative Inverse

Real Space · Intervals · Real Products

Real Plane · Real Line · Real Addition Inverses

Real Summation · Integral Lists · Real Order · Real Sums · Rational Arithmetic · Permutations · Rational Multiplicative Inverse

Lists · Fields · Geometry · Rational Order · Real Numbers · Rational Sums · Groups · Rational Products · Inverse Elements

Direct Products · Rings · Rational Numbers · Set Numbers

Integer Arithmetic · Finite Sets · Element Functions

Natural Summation · Integer Products · Natural Multiplication Identity · Natural Additive Identity · Equivalent Sets

Family Unions and Intersections · Natural Equations · Family Operations · Integer Order · Comparisons · Integer Sums · Arithmetic · Identity Elements · Function Inverses

Equations · Families · Orders · Integer Number · Natural Powers · Operations · Function Composites · Function Images

Natural Order · Converse Relations · Natural Products · Functions · Equivalence Relations

Natural Sums · Relations

Recursion Theorem

Peano Axioms

Natural Induction

Set Products

Generalized Set Dualities · Natural Numbers · Set Powers

Set Unions and Intersections · Set Dualities · Successor Sets · Intersection of Empty Set · Unordered Triples · Partitions · Set Symmetric Differences

Pair Union · Set Intersection · Set Complements · Ordered Pairs

Pair Intersection · Set Differences · Set Union

Empty Set · Unordered Pairs

Set Specification

Set Equality

Set Inclusion

Standardized Accounts

Accounts

Deductions

Quantified Statements

Logical Statements

Statements

Sets · Identities

Names

Letters · Objects