Why

TODO. I wanted principal submatrix.

Definition

An *index set* of $\{1, 2, \ldots, n\}$ is a subset of $\{1, 2, \ldots, n\}$. A *submatrix* of an $m \times n$ matrix is a matrix whose are selected according to (TODO) an index set of $\{1, 2, \ldots, m\}$ and index set of $\{1, 2, \ldots, n\}$; we call the first index set the *row index set* and the second index set the *column index set*. A *principal submatrix* is the submatrix selected when the row and column index sets are identical.

A *sequential partition* of $\{1, 2, \ldots, n\}$ is a sequence of index sets such that all elements of a later piece of the partition are larger (in the natural order) than all elements in all previous pieces.

Submatrices

Matrices

Real Matrices

Vectors

Linear Equations

Linear Functions

Real Vectors

N-Dimensional Space

Plane Vector Sums and Differences

Space Vectors

Distance

Plane Vectors

Arrays

Space Distance

Plane Distance

Interval Length

Intervals

Real Space

Real Line

Real Plane

Real Summation

Real Order

Integral Line

Real Numbers

Fields

Rational Order

Geometry

Rings

Rational Numbers

Integer Arithmetic

Integer Products

Lists

Set Numbers

Natural Additive Identity

Natural Multiplicative Identity

Direct Products

Finite Sets

Identity Elements

Arithmetic

Natural Summation

Natural Powers

Equivalent Sets

Family Unions and Intersections

Comparisons

Function Inverses

Family Operations

Natural Equations

Natural Products

Integer Order

Integer Sums

Families

Function Composites

Function Images

Operations

Equations

Orders

Natural Sums

Integer Numbers

Converse Relations

Functions

Equivalence Relations

Natural Order

Recursion Theorem

Relations

Peano Axioms

Set Products

Generalized Set Dualities

Set Powers

Natural Induction

Set Unions and Intersections

Set Dualities

Unordered Triples

Intersection of Empty Set

Successor Sets

Partitions

Set Symmetric Differences

Natural Numbers

Ordered Pairs

Pair Unions

Set Intersections

Set Complements

Pair Intersections

Set Unions

Set Differences

Unordered Pairs

Empty Set

Set Specification

Set Inclusion

Standardized Accounts

Accounts

Deductions

Quantified Statements

Logical Statements

Statements

Identities

Sets

Names

Letters

Objects