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

Vectors

Fields   N-Dimensional Space

Groups   Real Numbers   Space

Algebras   Rational Numbers

Operations   Integer Numbers

Functions

Relations   Zero

Ordered Pairs   Natural Numbers   Equation Solutions

Unordered Pairs   Set Unions   Set Intersections

Set Specification   Equations

Set Inclusion

Empty Set

Set Equality

Standardized Accounts   Identity

Accounts

Deductions   Quantified Statements

Logical Statements

Statements

Identities   Sets

Objects