



Submatrices

1 Why

TODO. I wanted principal submatrix.

2 Definition

An *index set* of $\{1, 2, \dots, n\}$ is a subset of $\{1, 2, \dots, n\}$. A *submatrix* of an $m \times n$ matrix is a matrix whose are selected according to (TODO) an index set of $\{1, 2, \dots, m\}$ and index set of $\{1, 2, \dots, n\}$; 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 $\{1, 2, \dots, n\}$ 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.