Orthonormal Matrices

1 Why

TODO

2 Definition

An *orthonormal* matrix is a matrix whose columns are an orthonormal family of vectors.

Some authors call these *orthogonal* matrices or *real orthogonal* or *unitary* matrices.

2.1 Notation

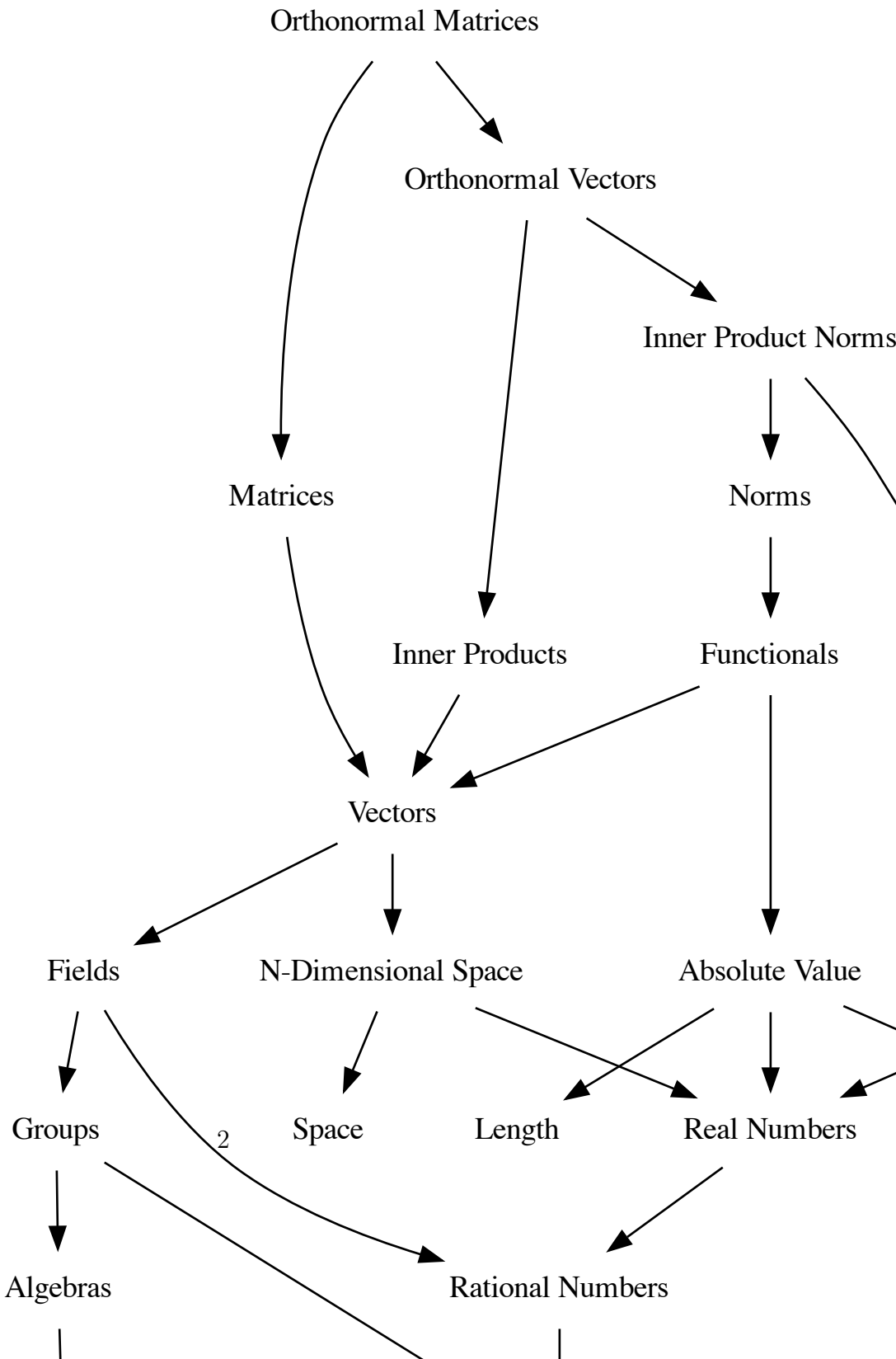
Let $A \in \mathbf{F}^{m \times n}$. Something something

$$AA^T = I.$$

3 Characterizations

Proposition 1. *A matrix is orthonormal if and only if its transpose product with the matrix is the identity.*

Proposition 2. *A matrix is orthonormal if and only if its transpose is orthonormal.*


Orthonormal Matrices
Orthonormal Vectors
Inner Product Norms
Matrices
Norms
Inner Products
Functionals
Vectors
Fields
N-Dimensional Space
Absolute Value
Groups
2
Space
Length
Real Numbers
Algebras
Rational Numbers