

# Notes on Finite Element Method

Emmanuel Flores

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Any finite element algorithm has essentially four ingredients

- Variational formulation in an infinite-dimensional space
- Variational formulation in a finite-dimensional space
- Construction of a basis in the finite-dimensional space
- Assembly and solution of the resulting linear system

The main idea is to lift or relax the assumptions made in a regular PDE problem, this is: usually the restrictions are too

The support of a function is the set of points in which the function is non-zero.