Triangulation

FiniteElement

Quadrature

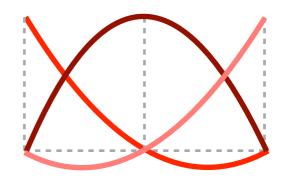
Mapping

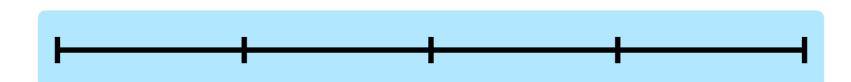
$$A_{ij} = \int_{\Omega} \nabla \phi_i(x) \cdot \nabla \phi_j(x) =$$

$$= \sum_{K} \int_{K} \nabla \phi_i(x) \cdot \nabla \phi_j(x) =$$

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$$= \sum_{K} \sum_{q} J_K^{-1} \hat{\nabla} \hat{\phi}_i(x_q) \cdot J_K^{-1} \hat{\nabla} \hat{\phi}_j(x_q) |\det J_K(x_q)| w_q$$





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$$\mathbf{X}\mathbf{i}$$

Triangulation FiniteElement

Quadrature

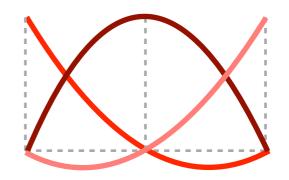
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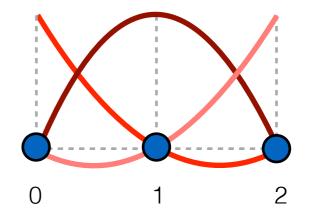
DofHandler FEValues

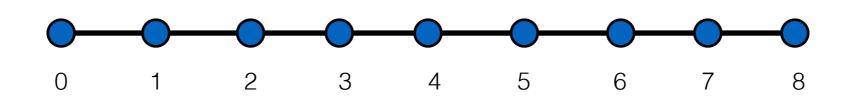
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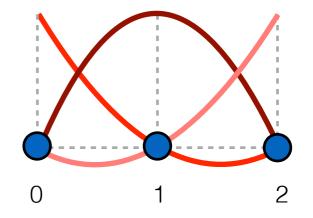
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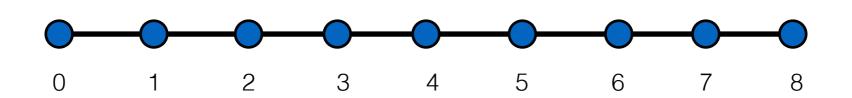
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DofHandler

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$$0 \qquad 1 \qquad 2$$

Triangulation FiniteElement Quadrature Mapping

DofHandler FEValues

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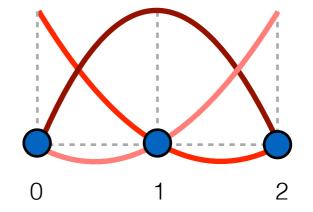
DofHandler

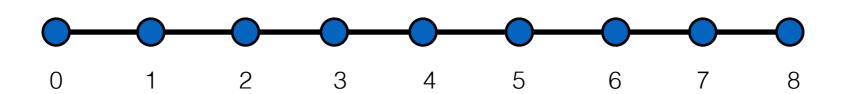
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Triangulation FiniteElement Quadrature Mapping

DofHandler FEValues