Baroch spaces:

Couchy sequence un ma morned vector
space (E, 11.011E) have the following property:

teso, I NIE/SO such that msms NE)

-> | Un - un | E < E.

Jos a certain number D, for all others
M, M greater than that perficulus D, the distance
between elements un, un most not be greater
than e. thus, N is & dependent).

Variation formulation of the method:  Consider a particular problem where it is the intermediate in the be condecided as an element of the speec of fourthers V.  The idea is to obtain an approximate fourther it.  In the finite elementathod, we find the variational problem.  Li Consider a roal valued fundar is on it is continued for the test function.  For the continuous problem.  -Au = f  Au. is dir.  Li twony formulation:  f. is increased.	Finite elevent method.
Consider a particular problem whose u is the unknown furtion such that u is to be considered as an element of the speece of functions V.  The idea is to obtain an approximate function in which is a most upon the finite about the that we had the variational problem.  In the finite about the thod, we had the variational problem.  Lo Consider a real valued function who so so called the test function.  For the continuous problem.  - Du = f  **  **  **  **  **  **  **  **  **	
The idea is to obtain an approximate function is.  In the finite domestrathed the had the variational problem.  List Consider a roal valued function 2 on 2 called the test function.  For the continuous problem  - Du = f  I thought forms before:  I thorough forms before:  1. 2: work done	
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In the finite described we had the variational problem.  Les Consider a roal valued function 22 and 22 central the test function.  For the continuous problem  - Du = f  X - Jan. 2 da = Jada Have 22.  Les tworzy forms https:  f. 2: was above	
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In the finite described we had the variational problem.  Les Consider a roal valued function 22 and 22 central the test function.  For the continuous problem  - Du = f  X - Sala 2 dl = Stada Are 22.  Les tworzy forms beton:  f. 2: was above	M, is up a series of sports of sports
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L) Consider a roal valued fundan 2 on Se couldn't the test function. For the continuous problem $-\Delta u = f$ $+ \int \Delta u \cdot \lambda d\Omega = \int \lambda d\Omega + \lambda e \Omega.$ L) tworny forms ktom: $f \cdot D : we know done$	problem
For the continuity problem $-\Delta u = f$ $+ \int \Delta u \cdot \nu  d\Omega = \int \nu  d\Omega  d\nu \in \Omega.$ $+ \int \nu \cdot \nu  d\nu \cdot \nu  d\nu = \int \nu  d\nu  d\nu \in \Omega.$ $+ \int \nu \cdot \nu  \nu  d\nu  d\nu = \int \nu  d\nu  d\nu  d\nu \in \Omega.$	De Carlos Dates De tag
For the continuity problem $-\Delta u = f$ $+ \int \Delta u \cdot \nu  d\Omega = \int \nu  d\Omega  d\nu \in \Omega.$ $+ \int \nu \cdot \nu  d\nu \cdot \nu  d\nu = \int \nu  d\nu  d\nu \in \Omega.$ $+ \int \nu \cdot \nu  \nu  d\nu  d\nu = \int \nu  d\nu  d\nu  d\nu \in \Omega.$	called the test function.
- Du = f * - Jan. 2 doz = Jada Heres. De tworzy formskton: J. D: work done	
* - SLU. WOLD = SLUDE HER.  Strongy formsktom:  f. D: work done	,
L) tvorgy formsktom: f. D: work done	$-\Delta u = \pm$
L) tvorgy formsktom: f. D: work done	* - [ DU. D. D. =   + DUSL 45 ESL.
J. D: work done	32
	- trongy forms ktom:
$\lambda = U^{\circ}$	
force displacement.	force doplacement.

- Seur de = Sf. 2 de. According to : bree's former, , for or bounded in Ja (Du) pde = - Ja. Drdat Jan rdt. nis the norm verto it the bonding DD. Example: Dirichlet and trains W/ 2:0 = 0 Since is one of the functions is then T= 0 20 gV. → 3m. > = 0  $\int \nabla u \cdot \nabla r \, d\Omega + \int f \cdot r \, d\Omega = 0$ 

then.

we need the integrals over I to coner 30.
the Cauchy Schwart & inequality yields
$\left \int_{\Omega} dx  f\nu\right  \leq \int_{\Omega} dx   f\nu $
$\leq \sqrt{\int d\Omega  f ^2 \int d\Omega  D ^2}$
Since fis already en 1º fuction, me get that
Jar / f/2 < ~
Thus we need to high
Sd2/DP < 00
in order for SORFD to comproje. :. D+L2 asuel.
$(\mathcal{N})$ $\mathcal{M}(\mathcal{N})$

$$\frac{2C_{+}}{\partial t} - \nabla^{2}C_{+} + \nabla(C_{+}\nabla t) = 0$$

$$\frac{2C_{-}}{\partial t} - \nabla^{2}C_{-} - \nabla(C_{-}\nabla t) = 0$$

$$\frac{2C_{+}}{\partial t} - \nabla^{2}C_{-} - \nabla(C_{-}\nabla t) = 0$$

$$\frac{2C_{+}}{\partial t} - \nabla^{2}C_{-} - \nabla(C_{-}\nabla t) = 0$$

$$\Delta x^{2} \left( \frac{C_{+}^{m_{1}k} - C_{+}^{m_{1}k}}{\Delta t} \right) = \left( \frac{C_{+}^{m_{1}k+1} - 2C_{+}^{m_{1}k}}{C_{+}^{m_{1}k} - C_{+}^{m_{1}k}} + \frac{C_{+}^{m_{1}k}}{C_{+}^{m_{1}k} - C_{+}^{m_{1}k}} \right) - \left( \frac{C_{+}^{m_{1}k+1} - C_{+}^{m_{1}k}}{C_{+}^{m_{1}k} - C_{+}^{m_{1}k}} + \frac{C_{+}^{m_{1}k}}{C_{+}^{m_{1}k} - C_{+}^{m_{1}k}} \right)$$

- TX

$$T = \frac{2EK}{Pq}$$
 touch (4PVo)

touch (4PVo)

 $\frac{1}{4}$ 

$$= \frac{\chi}{Rq} + \frac{\tanh(qRh_0)}{\tanh(qRh_0)} \times \chi$$

RGE'S - D tandones para los couplinges

M22M.

PSS partial split sussy.

Run couplings with RGES.

muss equation in terms of Osol.

BRPU

Calcula mosa de nos tomos seguin P () És.

$$\frac{\partial C_{+}}{\partial t} = \nabla^{2}C_{+} - \nabla C_{+}\nabla t - C_{+}\nabla^{2}t$$

$$\frac{\partial C_{-}}{\partial t} = \nabla^{2}(C_{+} + \nabla C_{-}\nabla^{2}t) + C_{-}\nabla^{2}t$$

$$\nabla^{2}t = \mathcal{K}(C_{-} - C_{+})$$

We get

$$\frac{\partial C_{-}}{\partial t} = \nabla^{2}(_{-} - \nabla(\underline{\cdot} \mathbf{t} - C_{-} \nabla \cdot \mathbf{t})$$

$$\frac{\partial}{\partial t} \left( C_{-} - C_{+} \right) = \nabla^{2} \left( C_{-} - C_{+} \right) - \left( \nabla \left( C_{-} - C_{+} \right) \right) = - \left( C_{-} - C_{+} \right) \nabla \cdot t$$

$$\frac{\partial}{\partial t} \nabla E = \nabla^3 E - (\nabla E) E - (\nabla \cdot E)^2$$

$$\int_{X} 4^{1} dx = \chi \int_{0}^{x} (c - c_{+}) dx$$

$$\psi'(x) - \psi_0 = \chi \int_0^x ((-(+)) dx$$
  
 $\psi'(x) = \psi_0 + \chi \int_0^x ((-(+)) dx$ .

$$\frac{\partial C_{+}}{\partial t} = \nabla^{2} C_{+} - \nabla (C_{+} \nabla^{4})$$

$$\frac{\partial C}{\partial t} = \nabla^2 (- + \nabla ((+ \nabla t^4)))$$

$$C_{+}^{M+1, k} = C_{+}^{N, k} \left( 1 + \alpha \left( -2 - 4^{N, k} + 4^{N, k-1} \right) \right) + \alpha \left( 1 - 4^{N, k+1} + 4^{N, k} \right) + \alpha \left( 1 - 4^{N, k+1} + 4^{N, k} \right) + \alpha \left( 1 - 4^{N, k+1} + 4^{N, k} \right)$$

$$A^{4} = \kappa \Delta C$$

$$\Psi = \kappa A^{-1} \Delta C$$

$$\frac{9f}{5(t)} - \Delta_3(t + \Delta((t + \Delta f))) = R$$

Laplace:

$$\nabla^{2}(+ = \frac{1}{4}) \left( (+^{N+1} - 2(+^{N} + (+^{N-1})) + (+^{N-1}) \right)$$

$$\begin{array}{c} (+7 = \infty) \\ (-7 = \infty) \\ (-7 = \infty) \end{array}$$

$$C_{+}^{M+1} - (f^{M} = r - \nabla^{2}C_{+} + \nabla(C_{+}\nabla^{4})) \Big|_{x=0}$$

$$C_{+}^{M+1} - (f^{M} = r - \nabla^{2}C_{+} + \nabla(C_{+}\nabla^{4})) \Big|_{x=0}$$

Covider the Laplace - Dirichlet problem:

$$\frac{\partial G}{\partial t} = D_{+} \nabla^{2} G_{+} - D_{+} \nabla (G_{+} \nabla^{4})$$
 $\frac{\partial G}{\partial t} = D_{+} \nabla^{2} G_{+} - D_{-} \nabla (G_{-} \nabla^{4})$ 
 $\frac{\partial G}{\partial t} = \frac{\partial G}{\partial t} + \chi_{+} (G_{+} - G_{-}) = 0$ 

$$C_{\pm} = \pm |\pm| \zeta(x)$$

$$\frac{1}{T_{+}(t)} \partial_{t} T_{+}(t) = \frac{D_{+}}{Z(x)} \partial_{x} Z_{x}^{2}(x) - \frac{D_{+}}{Z(x)} \partial_{x} Z_{x}^{2}(x) - \frac{D_{+}}{Z(x)} \partial_{x} Z_{x}^{2}(x) - \frac{D_{+}}{Z(x)} \partial_{x} Z_{x}^{2}(x) + \frac{D_{+}}{Z(x)} \partial_{x} Z_{x}^{2}(x) - \frac{D_{+}}{Z(x)} \partial_{x} Z_{x}^{2}(x) + \frac{D_{+}}{Z(x)} \partial_{x} Z_{x}^{2}(x$$