Pregunta **1**

No s'ha respost encara

Puntuat sobre 10,00

Load the mesh **fluidMesh2** and let p=[1.15, 0.66] a point inside the plaque. The temperature on the plate follows the function $T(x,y) = 8(e^{xy} + e^{-xy})$. Answer the following questions:
(a) (4 points) The mean of the x-component of the three nodes of the element containing p is

- 1.1522e+00
- Leave it empty (no penalty)
- 1.0623e+00
- 1.1437e+00
- 1.1088e+00

Hint1: The y-component of the third node of the element containing p is 5.9307e-01
(b) (3 points) Let ψ_3^k the third shape function of the element containing p, then the value of $\psi_3^k(p)$ is

- 1.1390e-01
- 7.5155e-02
- 1.1170e-01
- Leave it empty (no penalty)
- 1.0202e-01

(c) (3 points) Compute the interpolated temperature at the point p, using the temperature at the element's nodes to which the point belongs. The absolute error when comparing to the exact value T(p) is

- 1.2542e-03
- Leave it empty (no penalty)
- 4.2940e-04
- 1.6442e-03
- 9.8386e-04

Hint3: The maximum value of the temperature at the element's nodes to which the point belongs is 2.1225e+01

Torna a començar | Desa | Emplena amb les respostes correctes | Envia i acaba | Tanca la previsualització

Informació tècnica

Comportament que s'està utilitzant: Retroalimentació diferida

Fracció mínima: -0.25

Fracció màxima: 1

Variant de pregunta: 1

Resum de la pregunta: Load the mesh FLUIDMESH2 and let p=[1.15, 0.66] a point inside the plaque. The temperature on the plate follows the function \(T(x,y)=8(e^{xy}+e^{-xy}).\) Answer the following questions: (a) (4 points) The mean of the x-component of the three nodes of the element containing p is {1.1522e+00; Leave it empty (no penalty); 1.0623e+00; 1.1437e+00; 1.1088e+00} Hint1: The y-component of the third node of the element containing p is 5.9307e-01 (b) (3 points) Let \(\psi ^k_3\) the third shape function of the element containing p, then the value of \(\psi ^k_3(p)\) is {1.1390e-01; 7.5155e-02; 1.1170e-01; Leave it empty (no penalty); 1.0202e-01} (c) (3 points) Compute the interpolated temperature at the point p, using the temperature at the element's nodes to which the point belongs. The absolute error when comparing to the exact value T(p) is {1.2542e-03; Leave it empty (no penalty); 4.2940e-04; 1.6442e-03; 9.8386e-04} Hint3: The maximum value of the temperature at the element's nodes to which the point belongs is 2.1225e+01

Resum de la resposta correcta: part 1: 1.1088e+00; part 2: 7.5155e-02; part 3: 1.2542e-03

Resum de respostes:

Estat de la pregunta: todo