4 Versió 1 (la més recent)

Pregunta **1**
Correcte
Puntuació 13,00 sobre 13,00

(a.1) (5 points) Consider one triangle defined by vertices v_1, v_2, v_3. We know that the interpolated temperature at other three different points in the same triangle p, q, r is $T_p = 10.528$, $T_q = 30.480$, $T_r = 90.801$. If the barycentric coordinates of these points are $p = (0, 1/4, 3/4)$, $q = (1/4, 0, 3/4)$, $r = (1/2, 1/2, 0)$, you can compute the temperatures at the vertices. The temperature corresponding to vertex v_1 is:
Hint: The sum of the temperatures at the vertices is $1.7867e + 02$.

- 1.1292e+02
- 1.3058e+02
- 1.5690e+02
- Leave it empty (no penalty)
- 1.3070e+02 ✔

Puntuació 5,00 sobre 5,00

La resposta correcta és: 1.3070e+02

(a.2) (1 points) Compute the interpolated temperature in the barycenter of the triangle defined by vertices v_1, v_2, v_3.

- 6.0269e+01
- 6.0586e+01
- Leave it empty (no penalty)
- 5.9558e+01 ✔
- 5.9780e+01

Puntuació 1,00 sobre 1,00

La resposta correcta és: 5.9558e+01

(b.1) (1 point) Consider the 1D cubic element Ω^k defined by the four nodes at coordinates $x = [-1, 0, 1, 2]$. Compute the value of the x^2 coefficient of $\dfrac{d\psi_1^k(x)}{dx}$.
Hint1:: After expansion, the derivative of the appropriate shape function is of the form $a \cdot x^2 + x - 1/3$.

- $-1/6$
- $-1/3$
- Leave it empty (no penalty)
- $-1/4$
- $-1/2$ ✔

Puntuació 4,00 sobre 4,00

La resposta correcta és: $-1/2$

(b.2) (3 points) Compute now the value of the $K_{1,1}^{k,1}$ element of the stiffness matrix when the coefficient a_1 of the model equation is $a_1 = 1$.
Hint2:: If needed, you can use that
$(a + b + c)^2 = a^2 + 2ab + 2ac + b^2 + 2bc + c^2$

- 1.2864e+00
- 1.2333e+00 ✔
- Leave it empty (no penalty)
- 1.3360e+00
- 1.0772e+00

Puntuació 3,00 sobre 3,00

La resposta correcta és: 1.2333e+00

Opcions de previsualització

Opcions de visualització

Camps personalitzats de preguntes