Pregunta **1**

No s'ha respost encara

Puntuat sobre 10,00

Modify the matlab code of **practice 2.3** to suit it in a 3D truss problem just keeping the (x,y) node coordinates, as they are in the practice code, and adding the z = 0 coordinate to all nodes, except the node 6 where z = 3517 mm. We preserve also element numbering, as shown in the figure, and also keeping the constants of the material ($200.e+3N/mm^2$) and the section of the bars ($3250mm^2$).

(a) (4 points) The value of the entry (3,4) of the local stiff matrix for the seventh element $K^7(3,4)$ is

- -4.7144e+04
- Leave it empty (no penalty)
- -5.9959e+04
- -3.2276e+04
- -1.8862e+03

Hint1: the value of $K^7(4,5)$ is 2.8614e+04

(b) (3 points) Now suppose we maintain fixed the nodes 1,2,3 and 4, permit to nodes 5 and 7 only move on the plane {z=0} and a force load of $(29525, -19398, 0)N$ is applied to node 6 Then the maximum of the displacements of the z-component of all nodes is

- 2.9361e-01
- 1.4259e-01
- 3.4765e-01
- Leave it empty (no penalty)
- 3.0046e-01

Hint2: the maximum of the x-displacements is 2.7003e-01

(c) (3 points) The final length of the most deformed bar is

- 9.6946e+03
- Leave it empty (no penalty)
- 5.0331e+03
- 5.5042e+03
- 4.6188e+03

Hint3: The x-component of the first vertex of the bar of maximum deformation is 1.8002e+03

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: Modify the matlab code of PRACTICE 2.3 to suit it in a 3D truss problem just keeping the (x,y) node coordinates, as they are in the practice code, and adding the z

= 0 coordinate to all nodes, except the node 6 where z = 3517 mm. We preserve also element numbering, as shown in the figure, and also keeping the constants of the material (\(200.e+3 N/mm^2\)) and the section of the bars (\(3250 mm^2\)). (a) (4 points) The value of the entry (3,4) of the local stiff matrix for the seventh element \(K^7(3,4)\) is {-4.7144e+04; Leave it empty (no penalty); -5.9959e+04; -3.2276e+04; -1.8862e+03} Hint1: the value of \(K^7(4,5)\) is 2.8614e+04 (b) (3 points) Now suppose we maintain fixed the nodes 1,2,3 and 4, permit to nodes 5 and 7 only move on the plane {z=0} and a force load of \((29525,-19398,0)N\) is applied to node 6 Then the maximum of the displacements of the z-component of all nodes is {2.9361e-01; 1.4259e-01; 3.4765e-01; Leave it empty (no penalty); 3.0046e-01} Hint2: the maximum of the x-displacements is 2.7003e-01 (c) (3 points) The final length of the most deformed bar is {9.6946e+03; Leave it empty (no penalty); 5.0331e+03; 5.5042e+03; 4.6188e+03} Hint3: The x-component of the first vertex of the bar of maximum deformation is 1.8002e+03

Resum de la resposta correcta: part 1: -3.2276e+04; part 2: 3.0046e-01; part 3: 5.0331e+03

Resum de respostes:

Estat de la pregunta: todo

Download this question in Moodle XML format

Contreu-ho tot

Opcions de l'intent

Com es comporten les preguntes

Retroalimentació diferida

Puntuat sobre

10

Torna a començar amb aquestes opcions

Opcions de visualització

Si és correcte

Mostrat

Puntuacions

Mostra la puntuació i el màxim

Xifres decimals en les puntuacions

2

Retroacció específica

Mostrat

Retroacció general

Mostrat

Resposta correcta

Mostrat

Historial de les respostes

No es mostra

Actualitza les opcions de visualització