**Assignment 7**

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# **Inputs**

LFORM == 1 - TOTAL LAGRANGE, ELSE UPDATED LAGRANGE

IGRAD = 1 - PERFORM POST-PROCESSING

MODEL = 1 - NO ITERATION, ELSE ITERATIONS

|  |  |
| --- | --- |
| **Parameters** | **Value(s)** |
| Simulation Parameters | |
| ITERMAX | 25 |
| Epsilon | 0.001 |
| GAMA | 0.5 |
| LFORM | 2 |
| IGRAD | 1 |
| MODEL | 2 |
| Domain Inputs | |
| X0 | 0 |
| Y0 | 0 |
| x\_length | 10 |
| y\_length | 1 |
| thick | 0.1 |
| Mesh Inputs | |
| NX | 5 |
| NY | 1 |
| NPE | 8 |
| NDF | 2 |
| DX | (x\_length/NX)\*ones(NX,1) |
| DY | (y\_length/NX)\*ones(NY,1) |
| NGPF | 3 |
| Material Properties | |
| E | 1.2E7 |
| v | 0.3 |
| G | 4.6154E6 |
| Loading condition | |
| NLS | 32 |
| DPX | Zeros(NLS,1) |
| DPY | Zeros(NLS,1) |
| F | [0 0] |
| Essential Boundary Conditions | |
| NSPV | 6 |
| ISPV | [1,2; 1,1; 12,2; 12 ,1; 18,2; 18,1] |
| VSPV | [0 0 0 0 0 0] |
| Natural Boundary Conditions | |
| NSSV | 20 |
| ISSV | [19 2; 20 2; 21 2; 22 2; 23 2; 24 2; 25 2; 26 2; 27 2; 28 2; 2 2; 3 2; 4 2; 5 2; 6 2; 7 2; 8 2; 9 2; 10 2; 11 2] |
| VSSV | [0.066667 0.033333 0.066667 0.033333 0.066667 0.033333 0.066667 0.033333 0.066667 0.016667 0.066667 0.033333 0.066667 0.033333 0.066667 0.033333 0.066667 0.033333 0.066667 0.016667] |

# **Tabular Results**

Table

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Table

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*Table 1: Total Displacement of node 17 (5Q8)*

*Table

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*A picture containing text, crossword puzzle, cabinet, green

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*Table 2: Stresses (\*10^-5) evaluated at left-most gauss point nearest the top of element 1 (5Q8)*

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*Table 3: Total displacement of node 22 and stresses (\*10^-5) (5Q9)*

# **Plots**

Chart, line chart

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*Figure 1: Node 17 displacements (-u,-v) vs load f0 = q0\*h*

*Chart

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*Figure 2: Stresses vs load f0 = q0\*h*