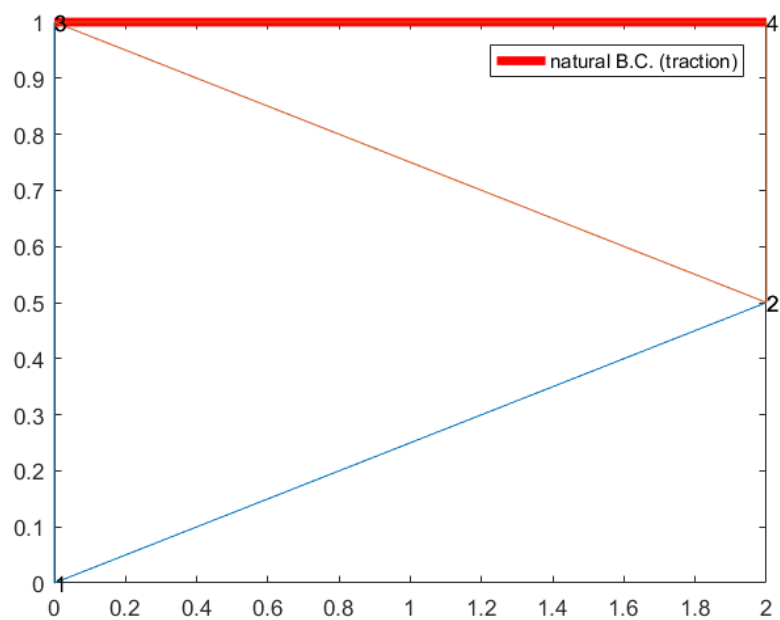


Report 3T

He Qi 2014011608

2016 年 12 月 4 日

1 Example3T



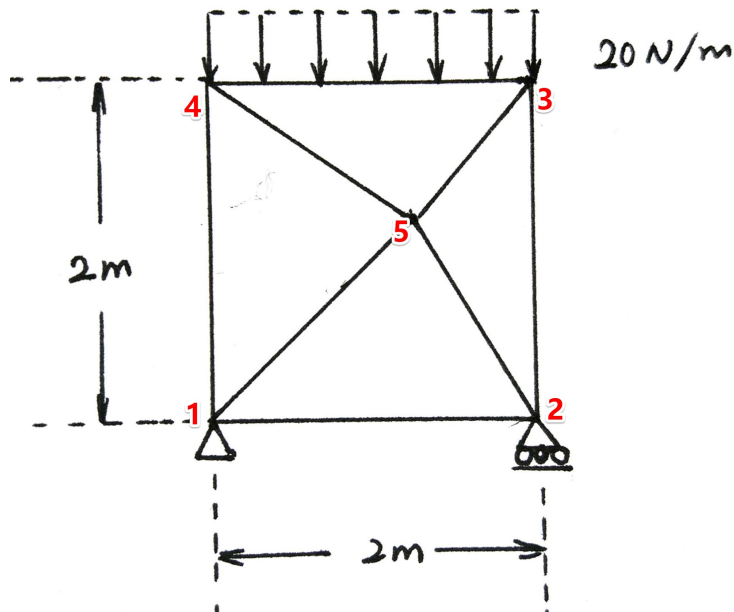
Answer in Matlab

29	Stress at Gauss Points				
30	-----				
31	Element 1				
32	-----				
33	x-coord	y-coord	s_xx	s_yy	s_xy
34	1.333333	0.500000	-6.380783	-1.914235	-38.404804
35	0.333333	0.750000	-6.380783	-1.914235	-38.404804
36	0.333333	0.250000	-6.380783	-1.914235	-38.404804
37	Element 2				
38	-----				
39	x-coord	y-coord	s_xx	s_yy	s_xy
40	1.666667	0.916667	12.761565	-19.202402	-3.190391
41	0.666667	0.916667	12.761565	-19.202402	-3.190391
42	1.666667	0.666667	12.761565	-19.202402	-3.190391

Answer in Stap90

96	STRESS CALCULATIONS FOR ELEMENT GROUP 1					
97	-----					
98	ELEMENT	X-CORRD	Y-CORRD	STRESS_XX	STRESS_YY	STRESS_XY
99	1	0.133333E+01	0.500000E+00	-0.638078E+01	-0.191423E+01	-0.384048E+02
100	1	0.333333E+00	0.250000E+00	-0.638078E+01	-0.191423E+01	-0.384048E+02
101	1	0.333333E+00	0.750000E+00	-0.638078E+01	-0.191423E+01	-0.384048E+02
102	2	0.166667E+01	0.916667E+00	0.127616E+02	-0.192024E+02	-0.319039E+01
103	2	0.166667E+01	0.666667E+00	0.127616E+02	-0.192024E+02	-0.319039E+01
104	2	0.666667E+00	0.916667E+00	0.127616E+02	-0.192024E+02	-0.319039E+01

2 PatchTest3T



We constrain the node 1 in xy direction and node 2 in y direction. With the pressure added on the top surface of plate, we get the constant stress that

$$s_{xx} = 0$$

$$s_{yy} = -20$$

$$s_{xy} = 0$$

Answer in Stap90

103	ELEMENT	X-CORRD	Y-CORRD	STRESS_XX	STRESS_YY	STRESS_XY
104	1	0.100000E+01	0.113333E+01	0.000000E+00	-0.200000E+02	0.000000E+00
105	1	0.250000E+00	0.533333E+00	0.000000E+00	-0.200000E+02	0.000000E+00
106	1	0.250000E+00	0.153333E+01	0.000000E+00	-0.200000E+02	0.000000E+00
107	2	0.133333E+01	0.800000E+00	0.888178E-15	-0.200000E+02	0.000000E+00
108	2	0.158333E+01	0.200000E+00	0.888178E-15	-0.200000E+02	0.000000E+00
109	2	0.583333E+00	0.200000E+00	0.888178E-15	-0.200000E+02	0.000000E+00
110	3	0.166667E+01	0.113333E+01	-0.266454E-14	-0.200000E+02	0.000000E+00
111	3	0.191667E+01	0.153333E+01	-0.266454E-14	-0.200000E+02	0.000000E+00
112	3	0.191667E+01	0.533333E+00	-0.266454E-14	-0.200000E+02	0.000000E+00
113	4	0.158333E+01	0.186667E+01	0.177636E-14	-0.200000E+02	0.244336E-14
114	4	0.133333E+01	0.146667E+01	0.177636E-14	-0.200000E+02	0.244336E-14
115	4	0.583333E+00	0.186667E+01	0.177636E-14	-0.200000E+02	0.244336E-14