Design1Stiffness

Column1
****
GEOMETRY
****

Nodal Coordinates:
(Node No. - X - Y - Z)

NODES =
1.00000   0.00000   0.00000
2.00000   0.00000   27.00000
3.00000   0.00000   39.00000
4.00000   0.00000   66.00000
5.00000   0.00000   78.00000
6.00000   86.50000   27.00000
7.00000   86.50000   66.00000

```
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Boundary Conditions: 1 = Restrained, 0 = Free
(Node No. - Tx - Ty - Rz)
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BOUNDS =

  1  0  1  0
  6  1  1  1
  7  1  1  1


----------------------------------------


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Element Information:
(Ele No. - iNode - jNode - Member Type - E - A - I)
----------------------------------------

ELES =

     1.00000      1.00000      2.00000      0.00000    29000.00000    9999.00000  999999.00000
     2.00000      2.00000      3.00000      0.00000    29000.00000    9999.00000  999999.00000
     3.00000      3.00000      4.00000      0.00000    29000.00000    9999.00000  999999.00000
     4.00000      4.00000      5.00000      0.00000    29000.00000    9999.00000  999999.00000
     5.00000      4.00000      7.00000      1.00000    29000.00000      10.00000      14.25000
     6.00000      4.00000      6.00000      1.00000    29000.00000      10.00000      14.25000
     7.00000      2.00000      7.00000      1.00000    29000.00000      10.00000      14.25000


----------------------------------------


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Load Information:
(Node No. - Fx - Fy - Mz)
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LOADS =

  1    0    0  1000


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plotFile = ../../1. OUTPUT/Design1Stiffness.png
ans =

  -8.6500  95.1500  -12.9000  90.9000


***********************************
```

ANALYSIS
****

kff =

Columns 1 through 5:

17680213.99177	-238682888.88889	-17680213.99177	0.00000	-238682888.88889
-238682888.88889	4296292000.00000	238682888.88889	0.00000	2148146000.00000
-17680213.99177	238682888.88889	219071441.72250	1144.65203	-969649236.11111
0.00000	0.00000	1144.65203	34904434.20378	0.00000
-238682888.88889	2148146000.00000	-969649236.11111	0.00000	13962949000.00000
0.00000	0.00000	-201388687.50000	0.00000	1208332125.00000
0.00000	0.00000	0.00000	-24164250.00000	0.00000
0.00000	0.00000	-1208332125.00000	0.00000	4833328500.00000
0.00000	0.00000	0.00000	0.00000	0.00000
0.00000	0.00000	0.00000	0.00000	0.00000
0.00000	0.00000	0.00000	0.00000	0.00000
0.00000	0.00000	0.00000	0.00000	0.00000
0.00000	0.00000	0.00000	0.00000	0.00000
0.00000	0.00000	0.00000	0.00000	0.00000

Columns 6 through 10:

0.00000	0.00000	0.00000	0.00000	0.00000
0.00000	0.00000	0.00000	0.00000	0.00000
-201388687.50000	0.00000	-1208332125.00000	0.00000	0.00000
0.00000	-24164250.00000	0.00000	0.00000	0.00000
1208332125.00000	0.00000	4833328500.00000	0.00000	0.00000
219068901.49177	0.00000	969649236.11111	-17680213.99177	0.00000
0.00000	34903916.66667	0.00000	0.00000	-10739666.66667
969649236.11111	0.00000	13962949000.00000	238682888.88889	0.00000
-17680213.99177	0.00000	238682888.88889	219074794.32366	-1144.65203
0.00000	-10739666.66667	0.00000	-1144.65203	34904436.11930
-238682888.88889	0.00000	2148146000.00000	-969649236.11111	0.00000
0.00000	0.00000	0.00000	-201388687.50000	0.00000
0.00000	0.00000	0.00000	0.00000	-24164250.00000
0.00000	0.00000	0.00000	-1208332125.00000	0.00000

Columns 11 through 14:

0.00000	0.00000	0.00000	0.00000
0.00000	0.00000	0.00000	0.00000
0.00000	0.00000	0.00000	0.00000
0.00000	0.00000	0.00000	0.00000
0.00000	0.00000	0.00000	0.00000
-238682888.88889	0.00000	0.00000	0.00000

0.00000	0.00000	0.00000	0.00000
2148146000.00000	0.00000	0.00000	0.00000
-969649236.11111	-201388687.50000	0.00000	-1208332125.00000
0.00000	0.00000	-24164250.00000	0.00000
13962949000.00000	1208332125.00000	0.00000	4833328500.00000
1208332125.00000	201388687.50000	0.00000	1208332125.00000
0.00000	0.00000	24164250.00000	0.00000
4833328500.00000	1208332125.00000	0.00000	9666657000.00000

Number of dof: 14

Number of loads: 1

LOADS =

```
 1   0   0  1000
```

deg = 1

deg = 2

P =

```
   0
 1000
   0
   0
   0
   0
   0
   0
   0
   0
   0
   0
   0
   0
```

uf =

```
  0.0201206403
  0.0003717978
  0.0100946688
 -0.0000015395
  0.0003708668
  0.0056464958
 -0.0000017456
  0.0003705166
 -0.0043516521
 -0.0000022093
  0.0003701943
```

-0.0087939843

-0.0000022093

0.0003701943

****
Post Process
****

Nodal Displacements:
(Node No. - Tx - Ty - Rz)

NodalDisp =

1.00000	0.02012	0.00000	0.00037
2.00000	0.01009	-0.00000	0.00037
3.00000	0.00565	-0.00000	0.00037
4.00000	-0.00435	-0.00000	0.00037
5.00000	-0.00879	-0.00000	0.00037
6.00000	0.00000	0.00000	0.00000
7.00000	0.00000	0.00000	0.00000

Global Member Forces:
(Element No. - iFx - iFy - iMz - jFx - jFy - jMz)

GlobalForces =

1.00000	0.00000	16.53407	1000.00000	-0.00000	-16.53407	-1000.00000
2.00000	-25.64103	4.97998	1000.00000	25.64103	-4.97998	-692.30769
3.00000	-25.64103	4.97998	692.30769	25.64103	-4.97998	0.00000
4.00000	-0.00000	0.00000	-0.00000	0.00000	0.00000	0.00000
5.00000	-14.58935	-0.00000	0.00000	14.58935	0.00000	-0.00037
6.00000	-11.05167	4.97998	0.00000	11.05167	-4.97998	-0.24657
7.00000	25.64103	11.55409	0.00000	-25.64103	-11.55409	-0.57153

Local Member Forces:
(Element No. - iFx - iFy - iMz - jFx - jFy - jMz)

LocalForces =

1.00000	16.53407	-0.00000	1000.00000	-16.53407	0.00000	-1000.00000
2.00000	4.97998	25.64103	1000.00000	-4.97998	-25.64103	-692.30769
3.00000	4.97998	25.64103	692.30769	-4.97998	-25.64103	0.00000
4.00000	0.00000	0.00000	-0.00000	0.00000	-0.00000	0.00000
5.00000	-14.58935	-0.00000	0.00000	14.58935	0.00000	-0.00037
6.00000	-12.12187	-0.00260	0.00000	12.12187	0.00260	-0.24657
7.00000	28.12399	-0.00602	0.00000	-28.12399	0.00602	-0.57153

Nodal Support Reactions:
(Node No. - Fx - Fy - Mz)

Support =

1.00000	0.00000	16.53407	0.00000
2.00000	0.00000	0.00000	0.00000
3.00000	0.00000	0.00000	0.00000
4.00000	0.00000	0.00000	0.00000
5.00000	0.00000	0.00000	0.00000
6.00000	11.05167	-4.97998	-0.24657
7.00000	-11.05167	-11.55408	-0.57190

sumFx = -0.00000000022112
sumFy =   -3.0198e-14
sumMz = -0.81847