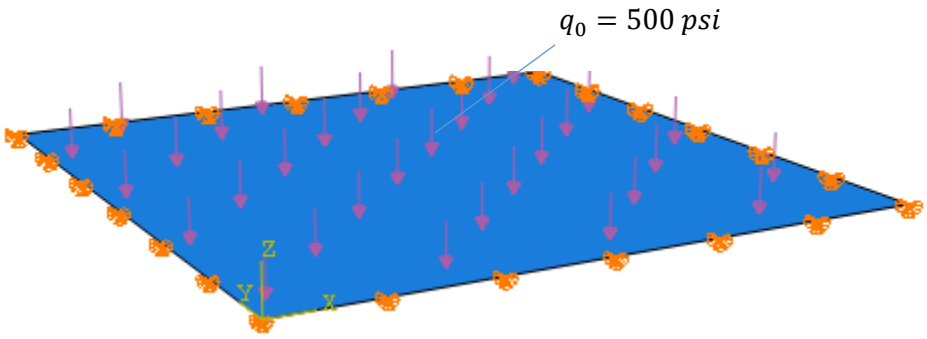
The boundary conditions of the four edges are set as: U1 = U2 = U3 = 0.

The loading condition is shown in the following figure.



<u>Summary of results:</u>

The exact result of the center deflection can be obtained by,

$$w = \frac{\bar{w}}{Eh^3 \times 10^2} q_0 a^4 = 7.620 \text{ inch}$$

The center deflection values of different mesh size are listed in the following table.

Mesh size	4 node Quad elements/ inch	8 node Quad elements/ inch	Exact results in Reddy's text
0.2	7.673	7.691	7.620
0.1	7.684	7.691	
0.05	7.689	7.691	

Both the results are acceptable compared to the exact results.

Compared to the results of 4 node Quad elements, that of the 8 node Quad elements are converged faster with the decreasing mesh size.

Sample output:

The results of 8 node Quad elements with mesh size of 0.2 are shown in the following figures in the next page.