

# Linear Column Buckling - Exercises

Author: Matt Scott, Cornell University

[Problem Specification](#)

[1. Pre-Analysis & Start-Up](#)

[2. Geometry](#)

[3. Mesh](#)

[4. Physics Setup](#)

[5. Numerical Solution](#)

[6. Numerical Results](#)

[7. Verification & Validation](#)

[Exercises](#)

[Comments](#)

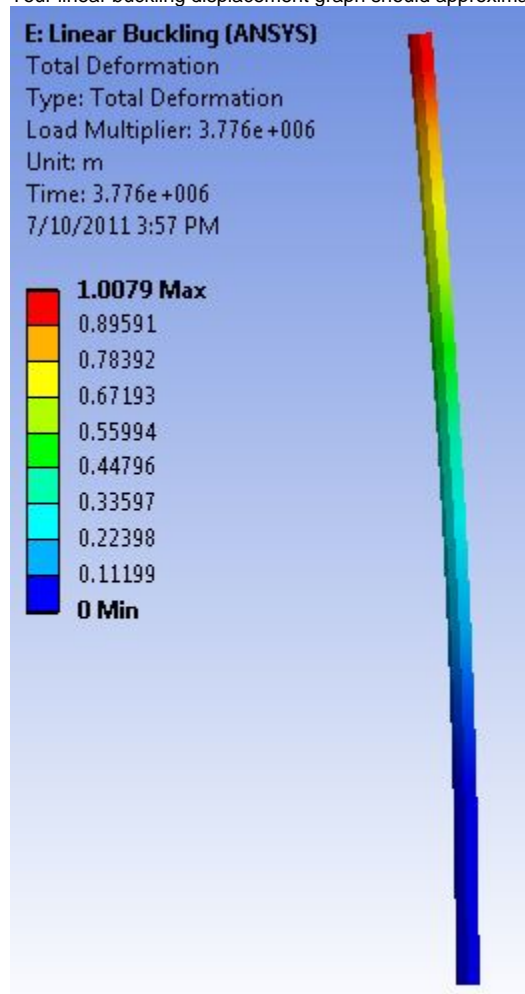
## Exercises

To further test your understanding of this tutorial, attempt to complete the following exercises.

For each exercise, you will need to use your original geometry, but apply different boundary conditions

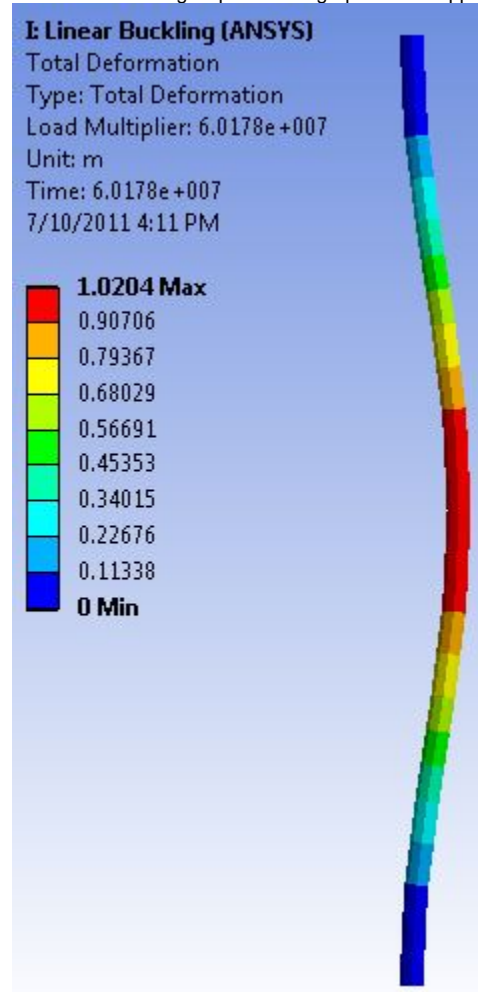
1. Calculate the critical buckling load for a column that is fixed at one end and free at the other.

Your linear buckling displacement graph should approximately match the following graph:



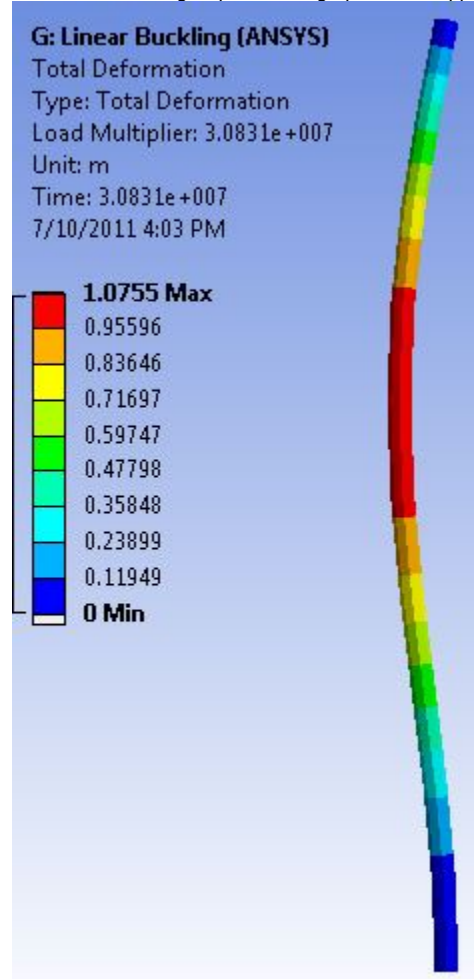
2. Calculate the critical buckling load for a column that is fixed at both ends.

Your linear buckling displacement graph should approximately match the following graph:



3. Calculate the critical buckling load for a column that is fixed at one end and pinned at the other.

Your linear buckling displacement graph should approximately match the following graph:



[Go to Comments](#)

[Go to all ANSYS Learning Modules](#)