Ansys nonlinearities can be grouped into three classes :

1. **Material** — Stress is not proportional to strain. Applications include plasticity, creep, hyperelasticity and swelling.

2. **Geometric** — The load path changes as a function of displacements. Stress stiffening, buckling, and large deflection/rotation problems exhibit geometric nonlinearities.

3. **Element** — Element stiffness changes as a function of some parameter. Gap elements are an example of this type.